Steve Wozniak: Exclusive Interview!

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Mac ADDICT 10

JUNE/97

HARDWARE EXTRAVAGANZA!

- 4 Spankin' New Macs Reviewed
- 22 Secrets to Extend Hardware Life
- 25 Must-have Gizmos and Gadgets

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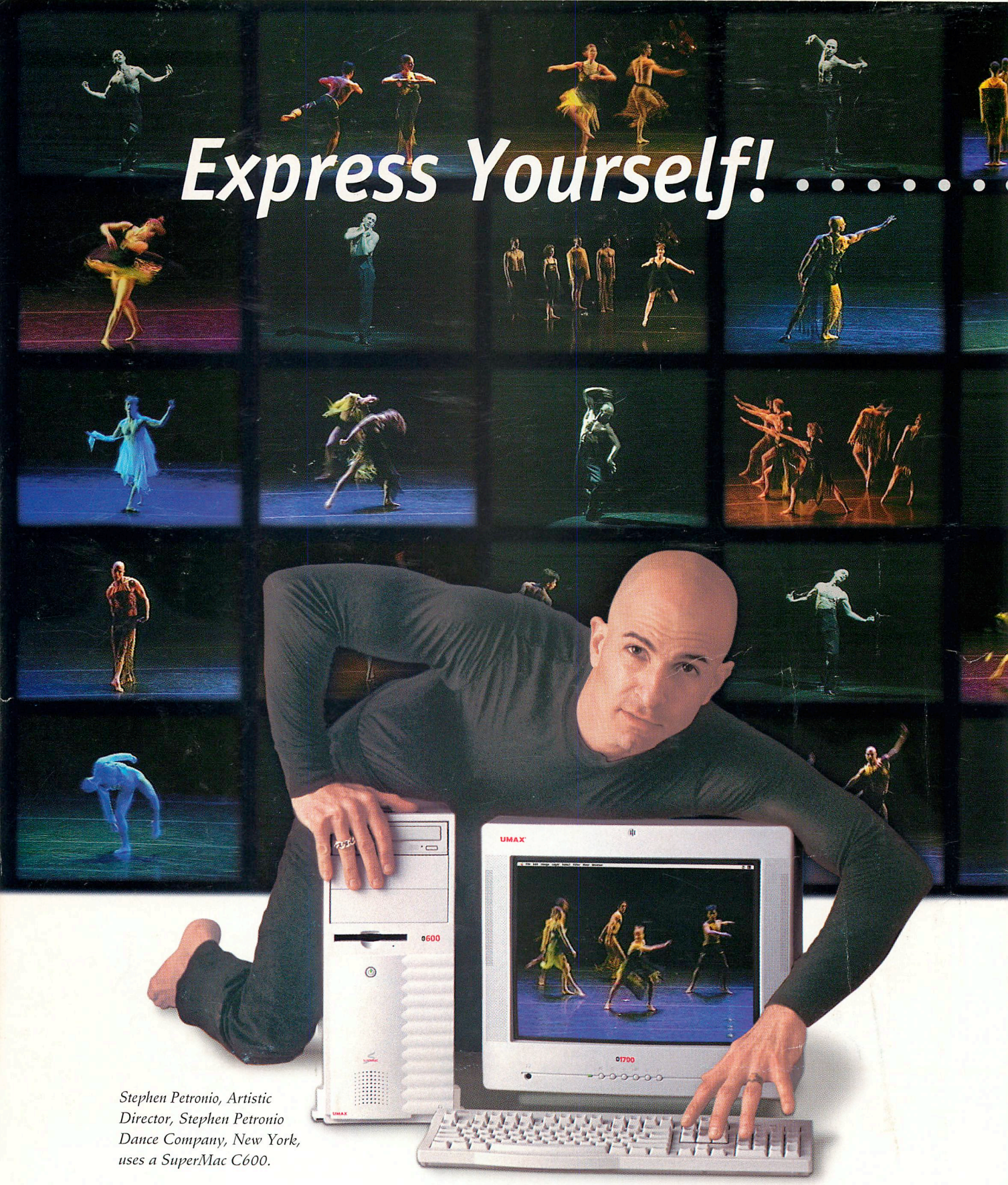

Stephen Petronio, Artistic Director, Stephen Petronio Dance Company, New York, uses a SuperMac C600.

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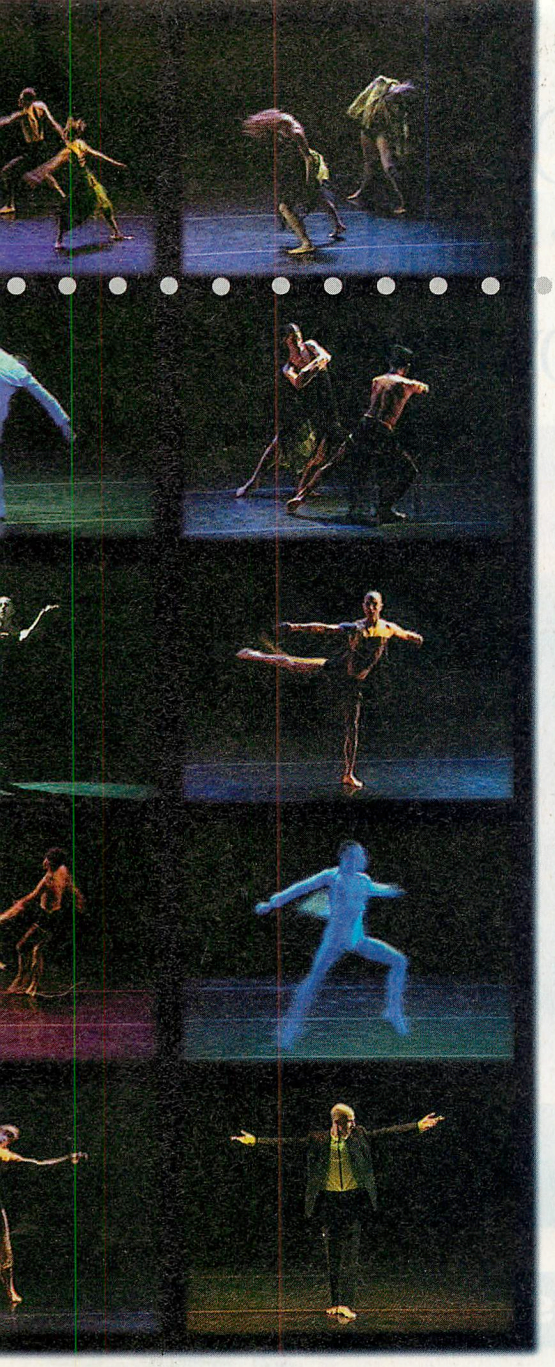

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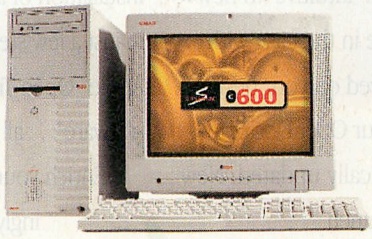

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SuperMac S900

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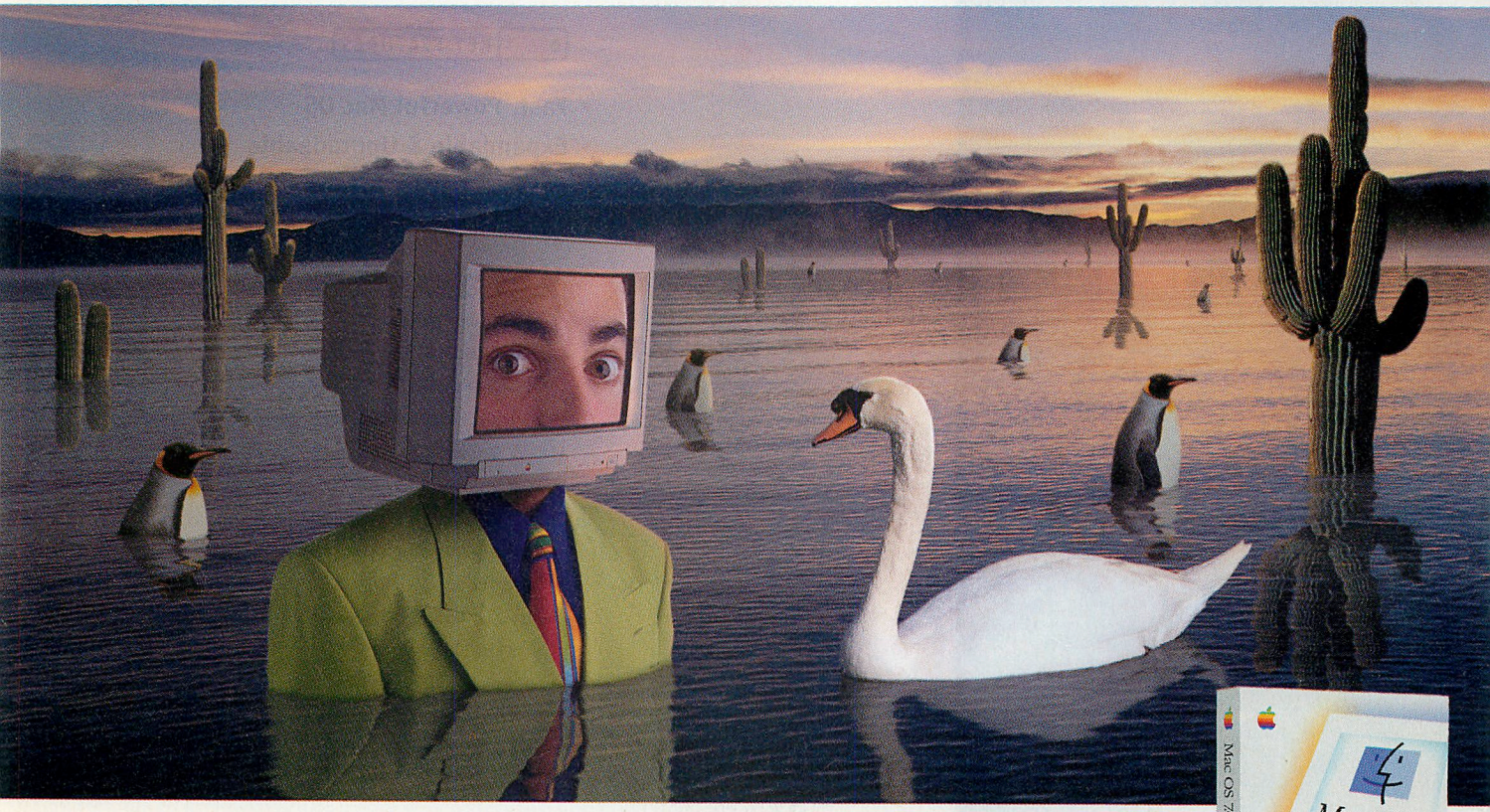

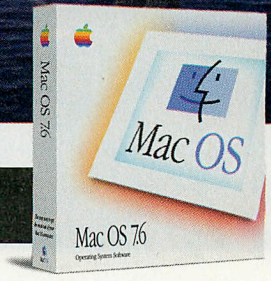

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JUNE 1997

Mac ADDICT 10

Yes, Virginia, there really is a free lunch.

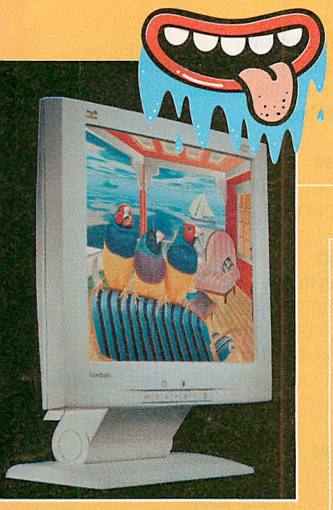
highlights

32 Gimme! Gimme! Gimme!
Stop wasting time. Hurry on over to this article to find out where to score tons of free goodies on the Net, from vitamin tablets to Mac software to an all-expenses-paid trip to Egypt. **BY NIKKI ECHLER**

40 25 Mouth-watering Gizmos
Geez, we get stuff—good stuff, bad stuff, prototype stuff, final stuff, you name it. From this feast we pick the top hardware peripherals that you need and want. **BY KATHY TAFEL**

46 What Woz Thinks
In this exclusive interview, legendary Apple co-founder Steve Wozniak talks about what he has been doing for the past 10 years, including pulling pranks, teaching kids, and scrutinizing Macs. **BY CHERYL ENGLAND**

50 Coming Clean
If it ain't broke...keep it that way. The Mac owner's TLC guide to taking care of that desktop wonder you love. **BY DAVID REYNOLDS**



That thin veneer of drool isn't going to help your monitor any.

how to

80 Make a Java Applet
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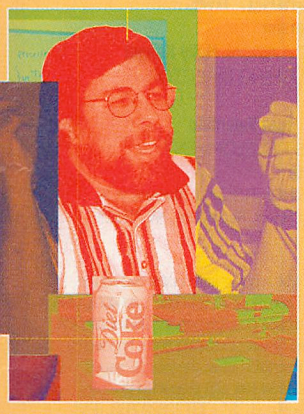
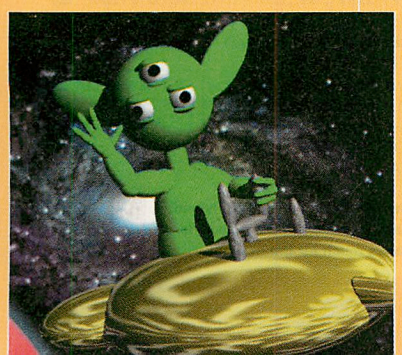
84 Make Easy 3D Objects
Guess what? You can make 3D objects using simple circles and cubes. No kidding.

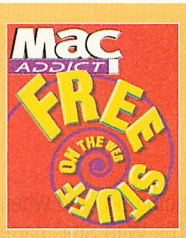
88 Prep a Movie for the Web
You've mastered graphics and text on your Web page by now. It's time to add drama with a QuickTime movie.



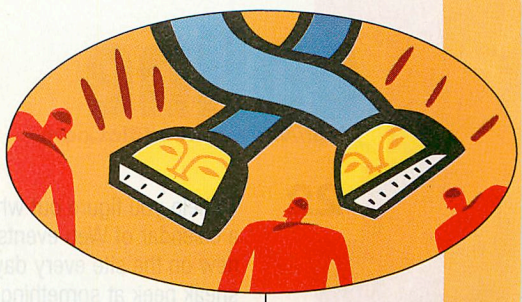
Find out what's on Woz's mind and in his hand and on his desk....



A face only a mother could love. But you can create this alien with only a few circles.



This month's cover art was diligently and patiently rendered by Art Director Ken Bousquet.



SCSI cables—why did it have to be SCSI cables???

Good thing Dennis has fur, what with that hole in the ozone layer.

every month

6 Editor's Note
We listen to her rant and rave all month long—now it's your turn.

10 Letters
Oddities, absurdities, even some useful stuff. Hey, you write this, not us!

24 Get Info
Brand-new Power Macs, a "Find Clarus" contest, and System software names sorted out.

28 Cravings
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56 Reviews
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92 Ask Us
Make a file or folder invisible in the Finder, force menus to stay down when you move the mouse over them, get the scoop on SRS sound, and a whole bunch more.

96 PowerPlay
The secret behind Lion Entertainment's successful PC-to-Mac ports.

112 Shut Down
Scraps, clippings, comics, and a smattering of unintentionally funny stuff.

the disc

14 Lots of freeware (free software) as well as our usual mind-pleasing selection of demos and shareware. Be sure to check out the highlights from our interview with Woz. And, oh yeah, a contest, too. And soundtracks. Ooh, and staff videos.

online

http://www.macaddict.com

22 To help you figure out what's going on, and when and where, we added a calendar of Web events to "The Web Site" page. There's something new on the site every day, whether it's a hot shareware product, a sneak peek at something from Apple, or your chance to ask questions. Take a look! Take several looks. Go ahead and stare if you want.

MacADDICT

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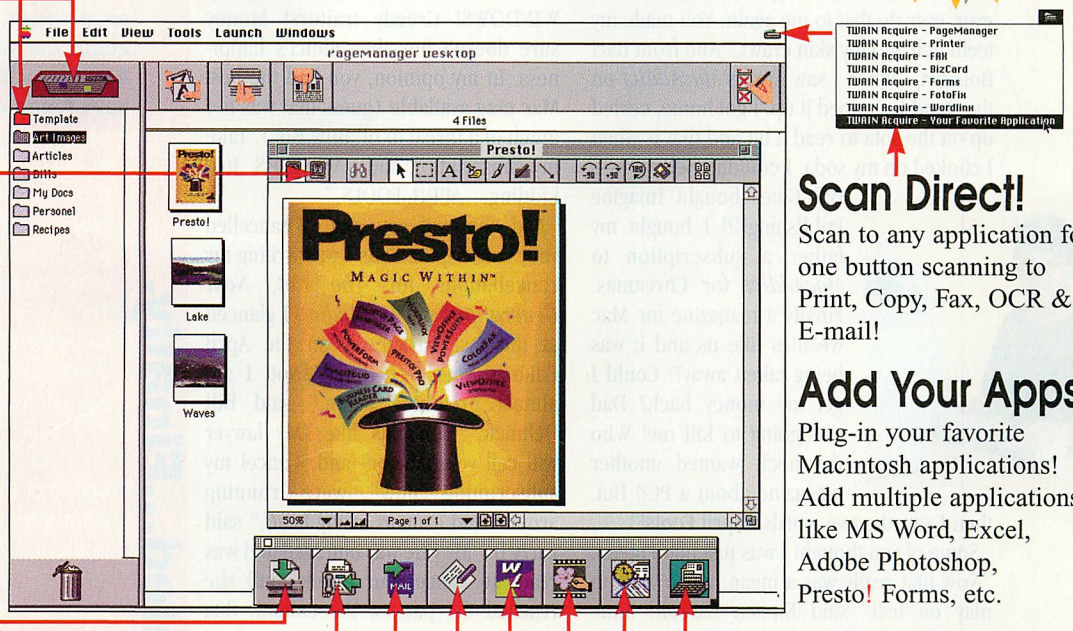

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editor's note

Hee, hee, hee—we fooled you. Sorry, it was just the devil in us.

It wasn't too long after the April issue hit the streets that the letters starting pouring in. From Jeremy Bergwerff, "Don't ever, ever, ever do that to me again. You made my teeth itch and my skin crawl." And from Bari Boisvert, "When I saw April's *MacAddict* on the stand I scooped it up. I got home, curled up on the sofa to read a bit and that is when I choked on my soda. I couldn't believe it—Bill Gates bought Imagine Publishing?!?! I bought my father a subscription to *MacAddict* for Christmas. Finally a magazine for Mac weenies like us and it was being taken away?? Could I get my money back? Dad was going to kill me! Who the heck wanted another magazine about a PC?! But, then I saw the two words...April Fools!"

Some of you thought I was just plain mean. "Now that really was a mean, mean trick to play on us!!" said Kirsten Carroll. Anne Harrod not only said, "NOT FUNNY, NOT FUNNY, NOT FUNNY!!!!!!" but also suggested that *MacAddict* "send Cheryl in for repairs before her system totally crashes and her hard drive turns micro-soft!" And this from our still-loyal reader John Sammon, "Okay people—and I use that term loosely—I can take a joke as well as the next guy but that one was low. There I was in my personal library (read: bathroom) reading my recently ex-favorite editor's note when I realized I couldn't bear finishing the article. Thank God I mustered enough strength to finish, otherwise I would have found a new use for my favorite magazine. Please...next time at least have the courtesy to enclose smelling salts."

Others of you tried to get even. From Robin Castle, "Just got your April issue and was dismayed to read in your Editor's Note that you're going WINDOWS! Greedy traitors! Money sure doesn't buy this addict's happiness. In my opinion, you had the best Mac mag available (guess that was too much of a threat to ol' Billy Boy). Take my subscription and RAM it! P.S. Just kidding...APRIL FOOLS."

"Give me a heart attack why don't you? It's called April Fools, not April (Cardiac) Arrests!" —Sean McEwen

And some of you almost cancelled your subscription. "As I was writing my cancellations for *The Net*, *Next Generation*, and *MacAddict*, I glanced at the last paragraph on the April Editor's Note. Very funny! Not! I am almost breathing again," said Bill Helmick. "Thoughts like "My lawyer will call your lawyer" and "Cancel my subscription now" were running around and around in my head," said Larry D. "My wife was outraged and was ready to cancel our check until she reached the part of the column that made it clear that this was just a joke," said Jim Van der Kloot.

But the most frequent comment was that we'd given many of you heart failure. "I was so surprised and worried that my heart just exploded," said Jasper Davis. "I suggest you send a copy of Cheryl England's April editorial to *The New England Journal of Medicine* as dramatic evidence of a new cause of heart failure!" said Paul Purves. "Give me a heart attack why don't you! It's called April Fools, not April (Cardiac) Arrests!" said Sean McEwen. Some of you, such as Patti Van Tine and Al Woodcock, wrote lengthy (and quite funny) descriptions of their hospital stays. Eric Rustan suggested that I stay away from this type of editorial because, he asks, "if *MacAddict* wants to maintain its readership, doesn't it make sense to have *living* people that can renew their subscriptions?"

After reading all of your responses, I only have one question: How on earth am I supposed to top this next year? *—Cheryl England*

Mac OS 7.6 Secrets Revealed...Finally.

It's a mystery to me exactly what happened, but something did and, as a result, we didn't run the story about the Mac OS 7.6 secrets in the April issue. So, here's what you should have found out:

- Shared libraries have been moved about in the System to take advantage of file mapping when virtual memory is turned on, meaning some applications will take up less RAM under these conditions.
- The Assistant Toolbox (which provides services and prevents configuration conflicts) has been moved into the System and is installed automatically.
- The File Manager now supports 2 terabyte volumes for those Macs with a 68040 or PowerPC processor.
- Boot time has been reduced after an improper System shutdown, dropping from up to five minutes to a few seconds to complete mount checking for the drive. But System load time is the same.
- The PictWhap FKEY (Command-Shift-4) has been added, which lets users take screen shots of selected regions of the screen or (if the Control key is down) the contents of a window. It also lets you redirect a screen shot to the clipboard rather than to a PICT file.
- A new Control Strip module has been added for the CD-ROM drive.
- Disk First Aid (version 7.2.3) now correctly reports on the status of drives mounted by Mac OS 7.6. Any earlier version of Disk First Aid will erroneously report such disks as damaged when they are not.

Two things have died:

- PowerTalk is no longer installed or supported, and the Extensions will not be loaded. In fact, the Mac OS 7.6 installer will remove them upon installation.
- Classic networking is no longer an option. If you want to use a network with Mac OS 7.6, you must use Open Transport. *—David Reynolds*

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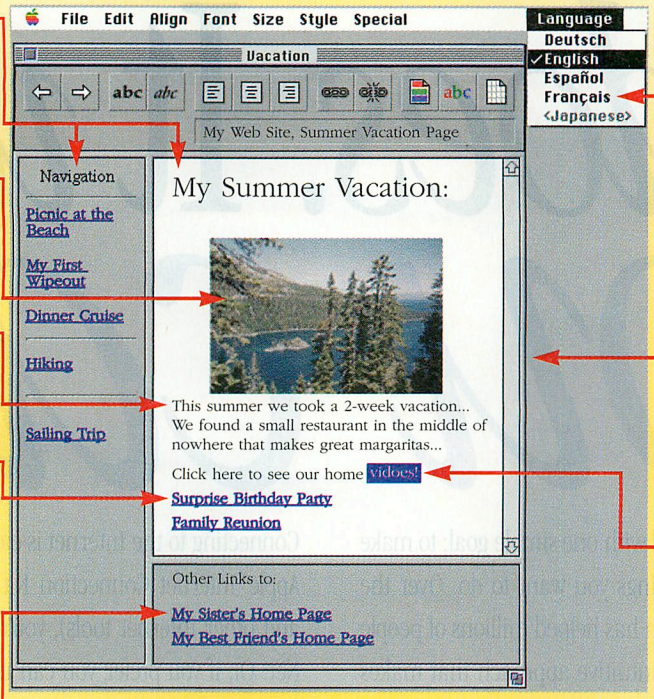

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So what does the future of the Mac® OS look like? For a glimpse, check out our newly released Mac OS 7.6. It's faster than ever before—so you can start your Mac, launch applications, save files and print up to 40% faster.

The Mac you buy today won't be obsolete tomorrow. Because Rhapsody will be compatible with all currently shipping Mac OS systems.

Connecting to the Internet is easier too. With the latest version of the Apple® Internet Connection Kit (it includes Netscape Navigator™ 3.0 and other Internet tools), you're one step away from accessing the Net. Or, if you prefer, you can use AOL or our own Apple Cyberdog™—they're included with Mac OS 7.6 along with TCP/IP and PPP.

Mac OS also has the latest version of Apple QuickTime,® the industry standard for multimedia creation and delivery. And it makes upgrading easier: with one CD-ROM and a streamlined installation process.

Intrigued? Then you'll love what comes next. Because we're hard at work on the next version of the Mac OS, code-named Tempo. Right from the start you'll notice a new look, with beveled buttons, icon drop shadows and other 3-D enhancements to the desktop. Tempo will dramatically improve system responsiveness by incorporating multitasking, multi-threaded functionality and native PowerPC™ capabilities directly in the OS. So you can run multiple applications more smoothly, and launch new applications while files are copying in the background. Tempo extends our Internet capabilities with easy

The Mac OS Report. One in a Series.

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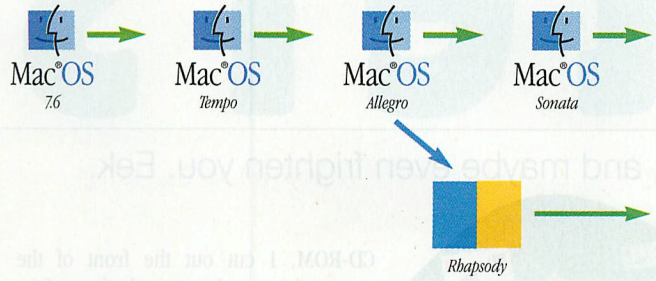

Apple's complementary operating systems—Mac OS and Rhapsody—allow you to choose the system that best meets your needs. They also allow you to decide when it's time to make the transition.

setup, personal web sharing and built-in Java™. And it will help you be more organized, by reducing on-screen clutter with spring-loaded folders and pop-up windows for frequently used items.

Of course, Tempo also paves the way for further updates to the Mac OS. Because there's much more to come.

It will be the NeXT thing.

When we began defining a new software architecture that would take us into the future, we had two clear objectives: to enhance our traditional strengths, and to create an operating system that would leapfrog the competition, setting standards into the next century.

Enter NeXT.® By acquiring NeXT Software and adopting their kernel-based architecture, Apple can offer advanced system services such as true multitasking, protected memory and symmetrical multiprocessing. We have also strengthened our position in client-server and Internet/Intranet markets. And NeXT's object-oriented development environment and powerful tools such as WebObjects™ and Enterprise Objects Framework™ give us clear advantages in the creation of new solutions.

Merging NeXT and the Mac OS will create a next-generation OS that will give our competitors something new to catch up to. It will be an OS that helps developers create breakthrough applications by allowing greater experimentation and efficient reuse of code. It will include the best of our graphics technologies, such as ColorSync® and QuickDraw® GX. And we plan to adopt the Adobe® PostScript® imaging model as well. It will fully support the QuickTime Media Layer. It will provide industrial-strength reliability, performance and ease of use. And it will be an ideal platform for publishing, multimedia and Internet applications yet to come.

What is the name of this new OS? Its code name is Rhapsody.

It will be an Apple thing.

Rhapsody will leave other operating systems in the dust. But not Apple customers. To start with, Rhapsody will enhance the general look and feel of today's Mac OS interface. It will support all currently shipping Mac OS-based systems. It will run the vast majority of existing Mac OS applications by hosting the complete Mac OS on the Rhapsody kernel.

In short, Rhapsody will run your existing applications and utilities, read your files, recognize your current fonts and extensions and play your movies and sounds. Rhapsody will deliver the kind of technology you expect from Apple. The kind of technology that appeals to anyone who requires the highest performance for publishing, Internet and multimedia authoring, and scientific and technical work. The kind of technology that appeals to people who like to, well, get things done.

You can.

What does all this mean? It means you can do everything you're used to doing now, plus a few things you might not yet imagine. It means you can buy a Mac today and not worry about its compatibility with Rhapsody tomorrow. It means Rhapsody won't just be a new way to use a *Macintosh*—it will define an entirely new way to use *computers*. You can learn more by visiting us at www.macos.apple.com or by calling 800-538-9696 for information by fax.

Mac OS

The world's most intuitive and easy-to-use operating system will remain just that. With regular system updates and enhancements, the Mac OS will take you well into the future.

The acquisition of NeXT provides Apple with additional strengths in performance, reliability, network management and rapid application development.

QuickTime™

Mac OS 7.6 extends Apple's leadership in graphics and multimedia by bringing together the latest versions of Apple QuickTime technologies, collectively known as the QuickTime Media Layer.

Adobe PostScript

Apple intends to adopt the Adobe® PostScript® imaging model for Rhapsody and transfer the best of our existing graphic technologies, including ColorSync and QuickDraw GX.

Apple®

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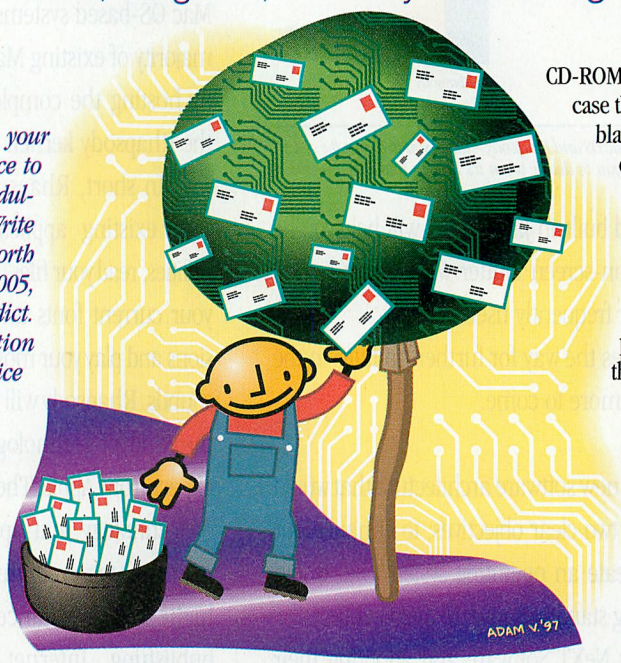
letters

Letters that will amuse, enlighten, and maybe even frighten you. Eek.

This Month

We love your stories, your comments, your jokes. We only wish we had more space to run all of your marriage proposals, indulgent praise, and sensitive criticism. Write to us at: MacDudes, MacAddict, *150 North Hill Drive, Suite 40, Brisbane, CA 94005, or send email to <letters@macaddict.com>. For CD-ROM or subscription queries, please call our customer service department at 415-468-2500.*

GET ON, GET ACTIVE. Talk to us and talk to other Mac addicts on the Web site.



Who Are You People?

I am writing on behalf of the ANCCU (Association of Neurotic, Compulsive Computer Users) to complain about the horrendous title of your publication. First, the term *Mac* is obviously a derogatory reference to left-handed Irish people. And the term *Addict* most definitely refers to paisley ties. Thus, when put together, you get "Left-handed Irish Paisley Ties," which are, as everyone knows, the symbol of the Saturnian invasion fleet. Be advised that the ANCCU is on the alert. We will not stand for your backhanded support of the Saturnians. Clean up your act or we will be forced to sacrifice a rutabaga in your name. —Dan Nord

Bring Her an Apple

PLEASE HELP!!! I'M BEING FORCED TO TAKE COMPUTER SCIENCE ON A PC!!! My teacher won't even accept answers that are based on Macintosh. On the last test, one question was "Name four processors." Nothing about Intel, just name four processors. So I filled out "68030, 68040, 603, 604". They were all marked wrong. Another question was name three operating systems. So I filled in "System 7.1, System 7.5, and Unix." She marked the two Mac answers wrong. What the hell? Are these people so dumb that they can't understand a Mac? They're easier to follow than that PC crap. I asked her about the two questions, and she said she didn't study anything about Macs, so she doesn't know if the answers are right or wrong. I told her that learning all those retarded commands for DOS is the worst crap I've ever heard of. What should I do? —R. Giltner, Manchester, TN

Have your parents talk to your teacher. Sounds like she needs to word the questions more specifically or she needs to find a Mac expert to help her grade the answers.

Useful Stuff!

I bought some jewel cases (blank CD cases, not the singer), and when I get my *MacAddict* CD-ROM, I cut out the front of the case thingy and put it in the front of the blank jewel case. Then I print a list of all the files on the disc (e.g., Shareware:Creative Tools:<PROGRAM>) and put it in the back of the jewel case. Now I have my *MacAddict* CD and a quick reference, and it protects the beautiful artwork on the front. —Louis Walch

Having worked as a Mac tech support person for an Internet service provider, I thought your article "Choosing an ISP" (Mar/97, p37) was very good. Just a few things I would add:

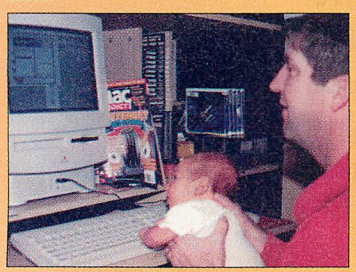
- The user-to-modem ratio is extremely important, and 10:1 to 13:1 is very good. If an ISP won't tell you the user-to-modem ratio, it's probably not good. The difference from 13 to 15 is more important than the difference from 10 to 13, since once people start getting busy signals, they tend to stay logged on (because they might not be able to get back on), which leads to more busy signals.
- Ask for the ISP's modem pool number before you sign up, and try calling it in the evening (8 to 11 p.m. is usually the busiest time). If you don't get a busy signal, then this is probably an ISP you can tell your friends about. If they won't give you the number, steer clear.
- If you're new to the Internet, getting set up can be incredibly confusing, especially if you have an older System version and are unsure if MacTCP or OpenTransport is installed. If you go weak at the sight of 205.218.128.39, ask if you can bring in your Mac to have the software installed for you.
- If the ISP offers term-purchase discounts (such as two months free if you pay a year in advance), watch out for too-good-to-be-true discounts. They could mean that the ISP is in financial trouble and is trying to get as much cash as possible before it goes out of business in three months. —Bill Gilliland

Recently Sighted

James MacCulloch is busy teaching his 1-month-old son, William, the rules of computing. According to James, the rules are:

Rule 1: Use a Mac.

Rule 2: If you have to use another OS, call in sick.



Rule 3: If all else fails, refer to Rule 1.

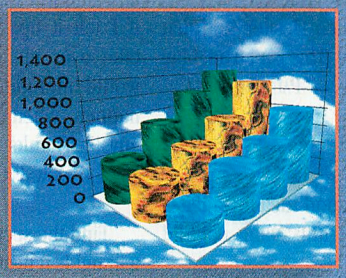
To prove that he's really doing this, James sent us this photo of William at work on his (James') Mac.

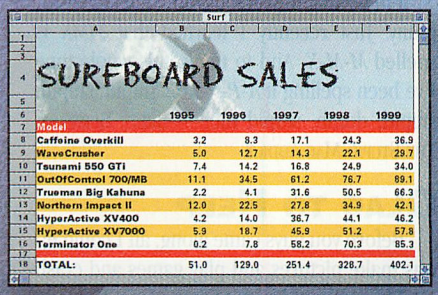
Are you losing sleep dreaming of a sexy spreadsheet and mind-blowing charts !?!

Imagine a spreadsheet with more features than ClarisWorks™, but without the bloated feeling of Microsoft Excel™!

Introducing Adrenaline Numbers & Charts 1.0™

Have you ever imagined being able to transform your existing Excel data into amazing, shaded, texture-mapped, true 3D charts using any 3D object you like ?



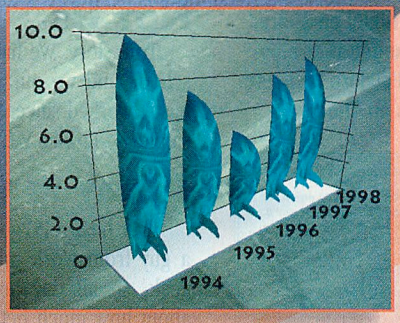


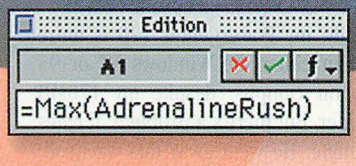
SURFBOARD SALES

Model	1995	1996	1997	1998	1999
Caffeine Overkill	3.2	8.3	17.1	24.3	36.9
WaveCrusher	5.0	12.7	14.3	22.1	29.7
Tsunami 550 GTi	7.4	14.2	16.8	24.9	34.0
OutOfControl 700/MB	11.1	34.5	61.2	76.7	89.1
Trueman Big Kahuna	2.2	4.1	31.6	50.5	66.3
Northern Impact II	12.0	22.5	27.8	34.9	42.1
HyperActive XV400	4.2	14.0	36.7	44.1	46.2
HyperActive XV7000	5.9	18.7	45.9	51.2	57.8
Terminator One	0.2	7.8	58.2	70.3	85.3
TOTAL:	51.0	129.0	251.4	328.7	402.1

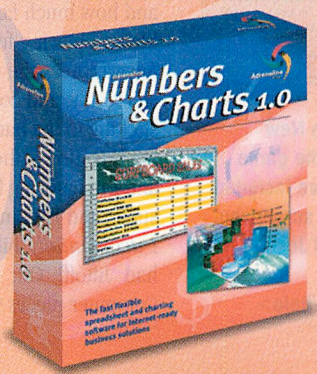
Imagine if you could save those charts as pictures, 3D objects or QuickTime™ movies ? You could use those charts in a presentation program, a video program or put them out on the Internet !

With its support for advanced Apple technologies like QuickTime, QuickDraw 3D™, AppleScript™ and more, Adrenaline Numbers & Charts takes the MacOS™ to the max !





With Adrenaline Numbers & Charts 1.0, you might not get more sleep, but you'll have a lot more fun.



Adrenaline Numbers & Charts is available right now at Cyberian Outpost, the Mac-friendly cool place for computer stuff. You may order via their web site at http://www.cybout.com/ or at 1-800-856-9800. Adrenaline Numbers & Charts is also available from MacWarehouse in the USA at 1-800-397-8508 or in Canada at 1-800-268-7805. An electronic version of Numbers & Charts is available from C/Net at http://BuyDirect.com

CYBERIAN Outpost
1-800-856-9800

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Ready for MacOS 8

As the first spreadsheet and charting package to be released in over two years, Adrenaline Numbers & Charts is optimized for the technologies of today's MacOS system software as well as tomorrow's MacOS 8.

Adrenaline Numbers & Charts 1.0

Features

- PowerPC™ native calculation kernel
- 149 essential spreadsheet functions
- TrueDimensioning™ formatting (pixels, inches, cm, points, picas) for spreadsheets and charts
- Advanced scripting capabilities
- Export spreadsheets as HTML
- Microsoft Excel 5.0 data compatible
- 23 2D/3D chart types to select from
- Simple interface for direct manipulation of objects
- Texture mapping of images and movies
- Import 3D objects (3DMF files)
- Full QuickDraw 3D support
- Innovative ObjectTransporter™ technology for creating custom 3D charts
- Complete OpenDoc support

System requirements

- Macintosh with PowerPC processor
- System 7.5.3 or later
- 16 MB of physical RAM
- 5 MB of hard disk space

Adrenaline Software

Adrenaline Software, Inc.
1400, boulevard du Parc technologique
suite 210
Québec (Québec)
G1P 4R7 CANADA
info@adrenaline.ca
www.adrenaline.ca

But of Course!

I object to cats being PC personas! Although Macs are man and woman's best friend, cats care about their Macs, as do dogs. MY CAT, Kate, WOULD RATHER SLEEP ON A MAC THAN A PC ANY DAY! She ignores the PC buried in the basement. —Jessica Carriker, Kenwood, MI

I was doing some research on my Scottish clan, the Colquhouns, when I saw the listing for Clan MacKintosh (MacIntosh). I was excited to find out a little history about the clan to which all Mac addicts owe loyalty. The biggest shock was the clan motto: "Touch Not the Cat Without a Glove." This is obviously an anticat motto and will hopefully end the "Mac owners are cat lovers" discussion. We have, from our beginnings, always been dog people. Find out more about Clan MacIntosh (and a really cool tartan) at <http://www.taisbean.com/celticnet/Mackintosh.html>. —Tony Sheets

In the March issue, Nico Destler said that Mac owners are dog lovers. This isn't true. Mac owners are dogcow lovers. —Paul Campbell

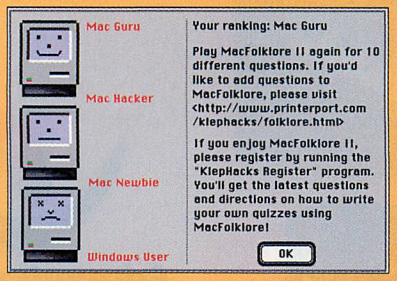
Gosh, Thanks for the Letter

Sugar!! I had a really good idea for a letter to you guys, but I forgot it!!!! Dang nabit!!!! —Noah Pollock

I don't know what the point in this letter was, but you got another piece of mail. —Curtis Jones

Oh #?!*#?!

The Macintosh Guru screenshot in Letters (Feb/97, p14) is really an altered version of the screen you get after playing the trivia game MacFolklore by Scott J. Kleper. MacFolklore is on The Disc.



In "Teach Your Old Modem New Tricks," the screenshot from the game Bolo (Mar/97, p55) should have included a credit for Chris Hwang. The screenshot was downloaded from his and Joseph Lo's site, Bolo Home Page, at <http://deckard.mc.duke.edu/bolo>.

Greetings. The color of your home page scares me. —Michael Klingensmith

You're on Your Own, Pal

I have a PowerBook 190. Originally, I named it Bob, a good, all-purpose name. The only voice it had was Fred, so there wasn't a whole lot of room to be exceptionally dynamic. However, now that it has developed its own personality of sorts (as well as a whole slew of voices), I've been looking for a better, preferably sexier, and more feminine name. Any suggestions? —Jon VandeRiet

Is it normal to sleep with my keyboard? —Dan Olson

Whoa There, Buddy

When I was reading "Demonic" (Feb/97, p15) and got to the end, I realized that I left the seat up!!!!! I quickly ran to the bathroom and shut it. I was worried what might happen if I left it up. Perhaps Rolls Royces would take over the government or maybe Earth would implode. There's no telling what might happen when people don't listen to you guys!!! Thanks for saving me! —Dave "Put the Lid Down" Guilford

Find the secret hot spot to win? I can't find a thing! Is it heat sensitive? Do I have to put the monitor to my head to reveal its location? I don't want to have a forehead imprint on my monitor if I don't need to. —Neil Epstein

The secret hot spot is on the main screen on The Disc. Click the Start Here icon to get to the main screen and then click around like crazy. Find the spot and the game appears.

Not Us

True story: We had a Power Mac 6100 at school, and we put a DOS card in it and it hasn't worked since. Who says computers are stupid? —Edward Valenzuela

A Day in the Life

Ever hear a PC go splat? We were helping a guy from work move, and he's a full PC geek, so all day he keeps haranguing us about how much better a PC is than a Mac, and how much faster a PC is, and blah, blah, blah…spewing forth typical PC geek hot air. Anyway, near the end of the day we move his stereo, TV, and computer, which he insists on sticking in the back seat of my Jeep. So we're hauling down the road, and he's spewing, and I'm ignoring him, until he says that Apple sucks and is going to CRASH soon. Just then I *accidentally* hit a dip in the road and we had liftoff! Oh, the inhumanity of it all! Computer pieces were strewn all over! Pieces of hard drive were splattered on the street, like…like…junk! I pulled over, and he jumped out screaming, all the while I'm trying to contain my laught…er, I mean my tears. After a bit he came back, speechless, and climbed in the Jeep, holding the PC's motherboard, or what was left of it…hee hee…and just sat there silent, all the way to the apartment. Lesson: Talking bad about Apple is bad karma! —Reuben Reynoso

You Know You're a Mac Addict When…

…you wonder why the Colors setting on a washing machine isn't followed by 256, Thousands, or Millions.
—Paul Findsen

…you find yourself wanting to hit the scroll buttons while watching television.
—Mike Morris, Columbus, GA

…you win $35 million in Lotto, keep your job throwing newspapers, and donate the $35 million to Apple.
—John R. Potter

Boy, You *Are* Stupid

I'm writing to you today to confess my stupidity. Just recently I learned that MMX is spelled *M-M-X*. And to think, this whole time I've been spelling it *A-P-P-L-E*! Stupid, stupid, stupid, dumb, stupid me. —Brett Burnside, The Stupid Mac Addict

Glad to Help

Before you guys came along, all I could do was make pictures and play games and crash my Mac without knowing how. Now I can do all that and know how I do it. —Ryan Purves

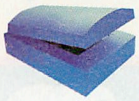
In the March Letters section, Curtis Jones gives an FTP address to retrieve the 1984 Macintosh commercial. This site doesn't seem to exist. What gives? —Jonathan Samson

The correct URL is <ftp://ftp.apple.com/pub/1984.mov>. The movie is 5.2MB.

Burn Some Incense

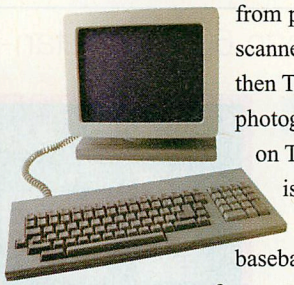
Normally, my PowerCenter 120 is more reliable than either the Windows NT or 95 machines on campus, despite my 170MB System folder. But there's a problem. It hates my roommate. He went away this weekend, and I used it all weekend without a single error. Navigator didn't even freeze on me. Within two hours of my roommate's return, it crashed SIX TIMES!! What's with this? Can it sense his negative PeeCee aura? Is he a human magnet? What? Do you guys know of a cure for this problem? —Matt Wimmer

Digital Images In.



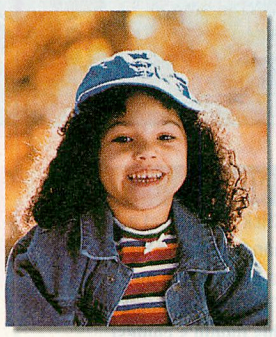
Panasonic Introduces TruPhoto™, the digital photo printer.

The new Panasonic TruPhoto printer creates real photographs from your PC or Macintosh® computer. Input an image into your computer from photo CDs, floppy discs, digital cameras, the Internet or scanners. Use your graphics program to manipulate the image, then TruPhoto will print out a bright, brilliant 3"x 5" glossy photograph. TruPhoto uses no toner or ink; it produces real photos on Thermo-Autochrome paper. MGI PhotoSuite™ for TruPhoto is included, so you can use your computer to retouch, crop and fix your photographs. And even create special effects, baseball cards, birthday cards, calendars and more. There are lots of ways to get digital images into your computer, but to get real photographs out, you need TruPhoto from Panasonic.



TruPhoto™

Real Photos Out.



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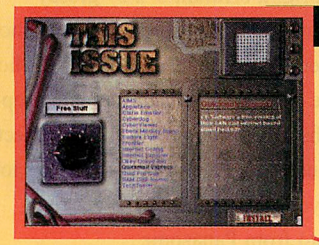
the disc

Light up your pallid Mac with more than 600MB of tan-inducing Mac rays.



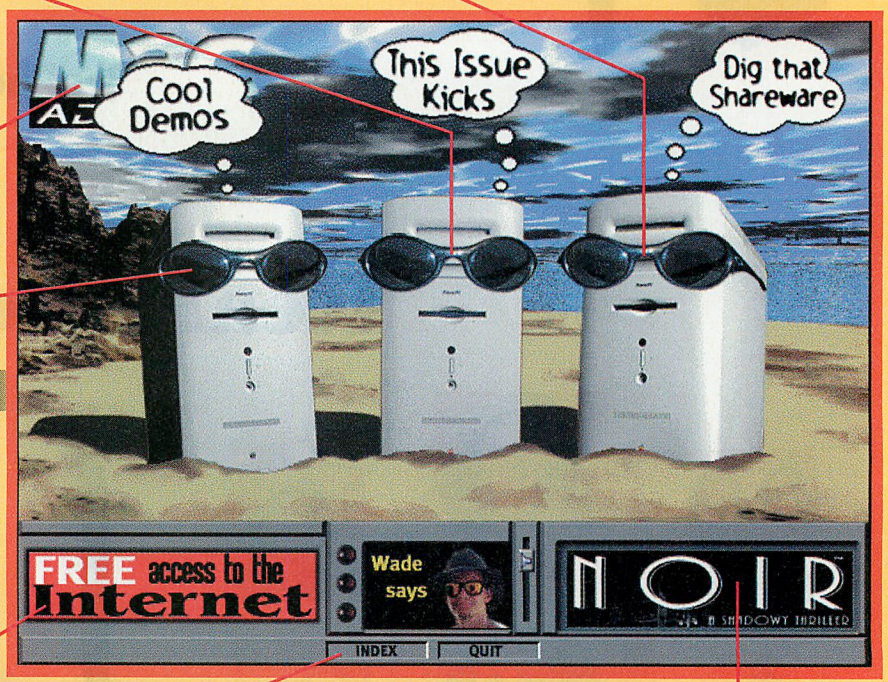
THIS ISSUE

Turn to this screen to find programs and files mentioned in the magazine. Whenever you see a disc icon in print, you'll know to come here on the CD.

SHAREWARE

And other kinds of ware, too. Click on the thumb in the lower right-hand corner to set up your Internet preferences. (If you did this last month, you don't need to do it again.)

Click on the *MacAddict* logo to find out more about your fellow Mac addicts than you really wanted to know.



DEMOS

Set sail for the islands of Command & Conquer, Peak, Noir, and NetMech.

Click here to hear a word or two from our sponsors.

INDEX

Click here to get a handy jumping point to every place on The Disc, including this month's contest.

Click here to see movies from the featured demos.

We're getting this multimedia thing down. This month we fell so much in love with the new Power Mac 6500s that we had to take them to the beach with us. Aside from the sand in their floppy drives (who uses them anymore anyway?), they loved the excursion. Where should we take them next? Tell us at <cdrom@macaddict.com>.

—Kathy Tafel

GETTING STARTED

1. Pop The Disc into your CD-ROM drive.
2. Double-click the *MacAddict* Tour icon for PowerPC or 68K Macintosh.
3. Have fun!

REQUIREMENTS

Any Mac can access the shareware, demos, and System software from the Finder. Accessing the full CD-ROM interface requires 12MB of real RAM with System 7.1 or earlier; 16MB of real RAM with System 7.5 or later.

OUR DISC SPONSORS

To find immediate information from our sponsors, go to the Index (Option-click any help screen). Or you can wait until you see a message from them in the lower right-hand corner of the main screen. Clicking on the message causes a TV screen to slide down from the top of the page, showcasing more information. You can also access information from the sponsors from the Finder's main window.

AOL

800-827-6364
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America Online offers access to the world of online news and information, interactive magazines, finance, entertainment, email, free software, shopping, and more. With a point and a click, you can explore the vast resources of the Internet. Sign on and receive 15 free hours.

Aspyr Media—Mah Jong Parlour

512-708-8100
http://www.aspyr.com

Play the game of tiles and strategy—solo, networked, or over the Internet. Mah Jong Parlour is the true game of mah jong, which is similar to gin rummy but has intriguing subtleties for engaging gameplay. MJP is easy to learn and a challenge to master!

Bungie—Marathon Infinity

800-295-0060
http://www.bungie.com

Marathon Infinity contains Blood Tides of Lh'owon, a brand-new 30-level scenario; Forge, Bungie's own powerful Map Editor; and Anvil, a single tool for easy modification of shapes, sounds, and physics models.

CE Software—QuicKeys

800-523-7638
http://www.cesoft.com

QuicKeys dramatically reduces time and effort spent on your Mac by automating all your most routinely performed multistep operations—on demand, in every application! QuicKeys extends the functionality of the Mac OS, providing a timesaving automation toolbox across your entire computing environment. So whether your specialty is tweaking pixels or crunching data, your everyday productivity soars.

Earthlink—TotalAccess

800-395-8425
http://www.earthlink.net

TotalAccess is Earthlink's complete software and Internet connection package. It includes Netscape Navigator, award-winning Internet access software, and everything needed to register for complete Internet access in fewer than five minutes. After the $25 setup fee, unlimited access is provided for $19.95 per month. 'Round-the-clock tech support is provided via an 800 number.

Europa Software—Web Quick

800-387-8373
http://www.europasoftware.com

Frustrated by Bookmarks? Web Quick tracks every page you visit and automatically organizes them by site. It lets you create custom topics—and keeps them all at your fingertips with handy pop-up menus. Web Quick even converts existing Bookmarks. No wonder MacWEEK called it "the first Web utility that is essential"!

MacSoft—Damage Incorporated

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Lead a highly trained marine strike force in real time through heart-stopping missions in this extraordinary 3D first-person shooting extravaganza. Fight for your own life while strategically issuing orders to your squad. Or take on your friends in deadly network play.

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888-232-UMAX;
http://www.supermac.com

The SuperMac S900 system was specifically designed with high-end functionality to meet the needs of creative design and production professionals. We kept all the best things you like—the familiarity and ease of use of the Mac OS and compatibility with all your favorite software. And, we wrapped it all up with the raw power of a 604 PCI-based design and delivered it at a price that can't be beat. Many unique features of the new S900 were designed to eliminate performance bottlenecks that have long troubled the market.

WAV—The Next Generation Desktop

801-785-2115
http://www.dharbor.com

WAV is the first Net-enabled component word processor that works the way you do. WAV's clever interface provides seamless and immediate access to other OpenDoc, Netscape, and Java components. Aside from the ability to contain parts, WAV can also be embedded into other OpenDoc parts.

WestWood Studios—Command & Conquer

800-874-4607
http://www.westwood.com

Award winner and million-unit seller Command & Conquer is easy to play and addictive fun. With four ways to conquer, the power is in your hands. Play solo, challenge a friend by modem, compete against four players over an IPX LAN, or battle head-to-head over the Internet for free using Westwood Chat. You can even play against friends on PCs! Plus, high-resolution graphics, 3D action movies, and two playable CDs make Command & Conquer the ultimate strategy game.

CONTEST

Win!Win!Win!Win!Win!

Build the ultimate flight simulator with CH Products' F-16 Fighterstick and Pro Throttle

We like to pride ourselves on the fact that we usually don't bash PCs outright. We'll tell you a dozen reasons why the Mac is better but generally leave "Mine's better," "No, you suck," and "Macs rule, PCs drool" to the advocacy newsgroups. Until now. To get to this month's contest, click on the bad guy who pops up in the bottom-middle of the opening screen. You will be transported to a page on The Disc and given the power over good and evil.

With your gun in hand, you must shoot a PC three times in a row. When you succeed (it's easy, trust us!), you'll receive a secret code to enter on the *MacAddict* Web site. In addition, you'll see a special video in which certain *MacAddict* editors stoop to new lows in the Mac vs. PC debate.

NO, IT'S NOT THE MOST ADMIRABLE way to say Macs are better, but it sure is fun.

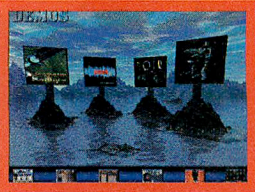
HELP

You Have a Problem?

What! You need help? Well, if your superphat disc is mangled, warped, broken, or otherwise disturbed, you can get a replacement from Imagine Publishing's customer service. We've set up a special page on our Web site where you can order one (at <http://www.macaddict.com/info/service.html>), or you can call them directly at 415-468-2500. If you can't install anything, or get disk errors, do the same.

If you have a different problem with The Disc, please stop by <http://www.macaddict.com/cdrom> before you send us email. If you don't find a solution there, please let us know about it by writing to our man Wade at <cdrom@macaddict.com>.

If you're having problems with System software, we recommend calling the good folks at 800-SOS-APPL. They'll be more than happy to help you.



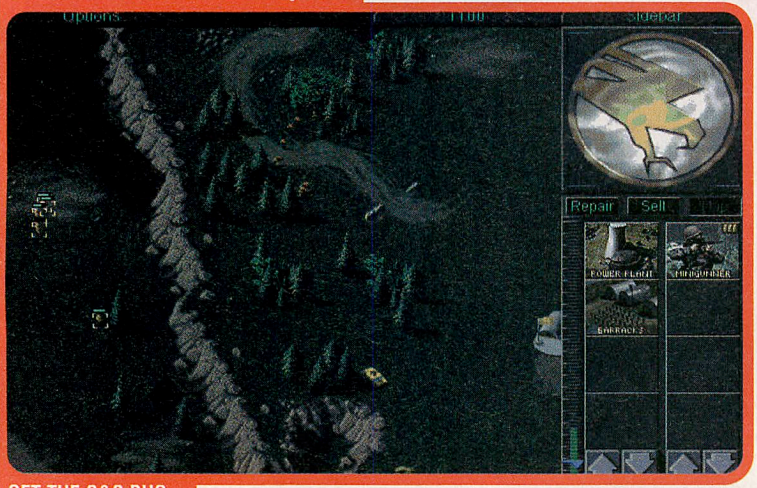
DEMOS

This month we bring you more than 20 terrific demos ranging from games to cookbooks to Kidz Stuff. Replay a few oldies-but-goodies (Lemmings) and take a trip to France, or even outer space. Remember, demos are not the full product. Many features from the program are disabled. Image-editing programs usually add a watermark to the screen image, and games generally allow you into only a few levels.

Damage Incorporated

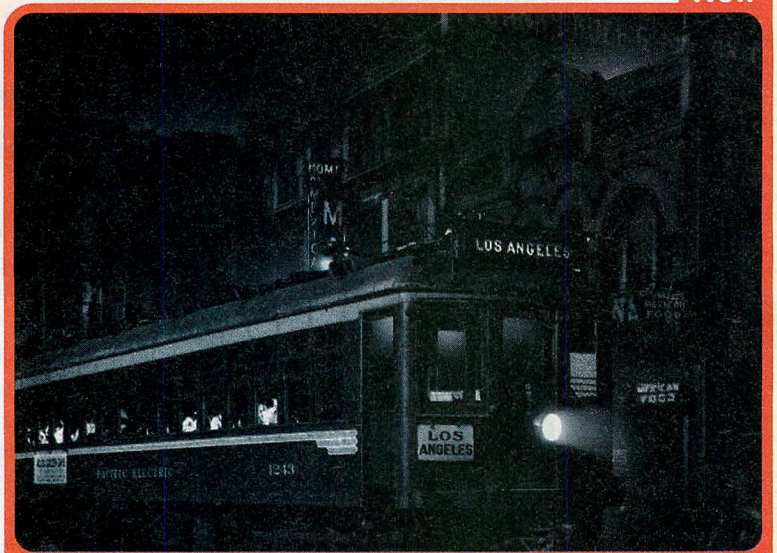
SEMPER FI! (Sorry, Guy, not to the Mac this time.) Command a squad of marines through a series of dangerous missions. Damage Inc. is based on Bungie Software Products' Marathon engine, but the folks at MacSoft have enhanced it considerably. Each member of your squad gives you aural feedback.

Command & Conquer



GET THE C&C BUG by trying out the first few levels of the game. This real-time strategy game set in the near future pits the United Nations against an evil terrorist group.

Noir



THIS POINT-AND-CLICK detective adventure is set in Los Angeles. With a spooky theme and grayscale images, Noir is sure to haunt you 'til you solve the mystery.

STRUCK GOLD!

Larry Troutman of Lafayette, California, correctly identified March's secret code: 68HC000. For you trivia meisters out there, the 68HC000 was the 16MHz version of the 68000 chip, which could be found in Mac Portables. Larry will be panning for gold with his new Klondike Gold CD-ROM. Turn back to page 15 to find out about your chance to win an F-16 Fighterstick and Pro Throttle from CH Products.

OTHER DEMOS

Allegiant SoundMaker
FlightCheck
Insta.html
Lemmings
LetterRip
LogoMotion
MasterCook
NetMech
NumberMaze Challenge
Peak
QuicKeys
SpeechPrompter
SpellTools
Starfleet Academy
Virtual Tourism Paris
Visual Page
Web Squirrel

...AND MORE!

Introducing the MessagePad 2000, the only handheld computer you can actually use.

Of all the handheld computers, only the MessagePad 2000 offers sharp, crisp backlighting and a 16-level, high-resolution gray-scale screen that rotates on command. Which means you can always see your work in the best orientation—horizontal or vertical, even upside down. And in the best light. Bright. Or dim.

The MessagePad 2000 gives you more flexibility, thanks to its two PC slots (other handhelds have only one slot). So, for example, you can dedicate one to a wired or wireless modem and use the other for additional memory.

How much can you do in three to six weeks? That's how long a set of AA batteries lasts under normal usage. Note: normal usage here means a lot. Like having backlighting on, using the modem, crunching numbers, writing e-mail, drawing, doodling, whatever.

Built-in software lets you connect directly to a variety of serial, IrDA and LocalTalk® printers—unlike most Windows® CE devices, which have to be hooked up to a PC in order to print.

There's fast. And then there's fast. The MessagePad 2000 comes with a screaming 160 MHz RISC processor, which offers up to five times the performance of the 20-40 MHz processors you get with other handheld devices.

The usable area of the MessagePad 2000 screen is up to 56% larger than what you'll find on most Windows CE products. So, instead of having to decipher small sections at a time, you can read the entire width of a fax or Web page.

A built-in microphone and speaker let you record and play back voice dictation. And the MessagePad 2000 is the only handheld computer that lets you record and take notes simultaneously.

The MessagePad 2000 works easily with desktop computers. So you can create documents on the MessagePad 2000, then transfer them to and from Microsoft® Excel or Word on any Windows or Mac® OS-based system. Or you can keep your calendar and address book current by synchronizing them with desktop programs like Microsoft Schedule+ 7.0 or Claris Organizer™ 2.0. And it's easy: with Auto Dock, the MessagePad 2000 makes these transfers automatically.

Unlike Windows CE-based devices, MessagePad 2000 is the only handheld computer that lets you exchange data with both Windows and Mac OS-based computers.

The MessagePad 2000 handheld computer offers a real detachable keyboard (not a tiny, finger-cramping version). So you can quickly and easily type e-mail, business letters, project reports. Only your superb writing style—not your aching fingers—will determine the length of your documents.

Of all the handheld computers out there, only one makes it truly easy to be productive on the road. Introducing the MessagePad® 2000. Rather than just letting you view data, the MessagePad 2000 lets you carry out sophisticated tasks with the greatest of ease. For example: you can now write a full-length proposal, insert information downloaded from the Web—even include pricing from your company's Intranet—and then fax or e-mail it to a client. Try that with an ordinary handheld computer. The MessagePad 2000 has more power, more storage, more flexibility. All contained within the most innovative design, optimized for usefulness. Of course, there's only one real way to understand how incredible the new MessagePad 2000 is: try it yourself. For the name of a dealer near you, or to get more information, call 800-909-0260. Or visit us at www.newton.apple.com/useit.

Newton®

Modem and ISP required for Internet access. Competitive specifications as of February 1997. ©1997 Apple Computer, Inc. All rights reserved. Apple, the Apple logo, the lightbulb logo, LocalTalk, Mac, Macintosh, MessagePad and Newton are registered trademarks of Apple Computer, Inc. Claris Organizer is a trademark of Claris Corporation. Microsoft and Windows are registered trademarks of Microsoft Corporation. All Macintosh® computers are designed to be accessible to individuals with disability. To learn more (U.S. only), call 800-600-7808 or TTY 800-755-0601.

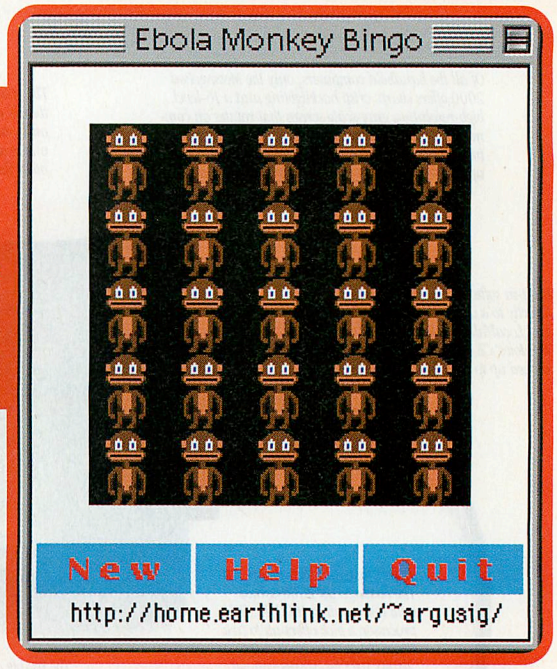
SHAREWARE

Find all kinds of spiffy shareware, freeware, beerware, emailware, and postcardware in this section of The Disc. We continually strive to make the *MacAddict* disc reflect what you, the viewing public, want. Please send your suggestions for the *MacAddict* superphat disc to <cdrom@macaddict.com>.

FUN & GAMES

Ebola Monkey Bingo

THIS IS A VERY SILLY GAME, but we can't help playing it over and over again. The object is to spell *bingo* by clicking on monkeys. If a monkey is healthy, it will highlight its letter and have a banana in its hand. If it's infected with the Ebola virus, the monkey turns green, and the game's over (presumably you get infected, too). Can you survive 10 days in the lab?



GoldPusher

GOLDPUSHER OFFERS PLENTY of challenges for puzzle-loving Mac addicts. If you've played MacSokoban or Blobbo, you'll be right at home. The goal of this game, however, is to push the pot of gold onto the rainbow. Its art could use a little work, but GoldPusher is a fun way to while away the afternoon.

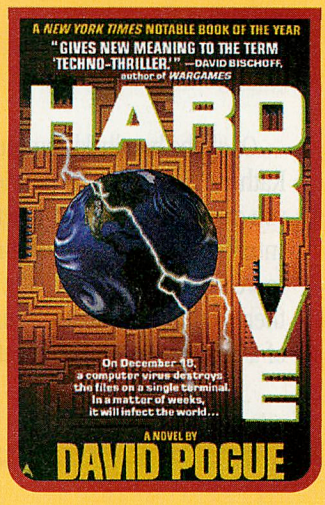
USER INTERFACE

Kaleidoscope 1.5

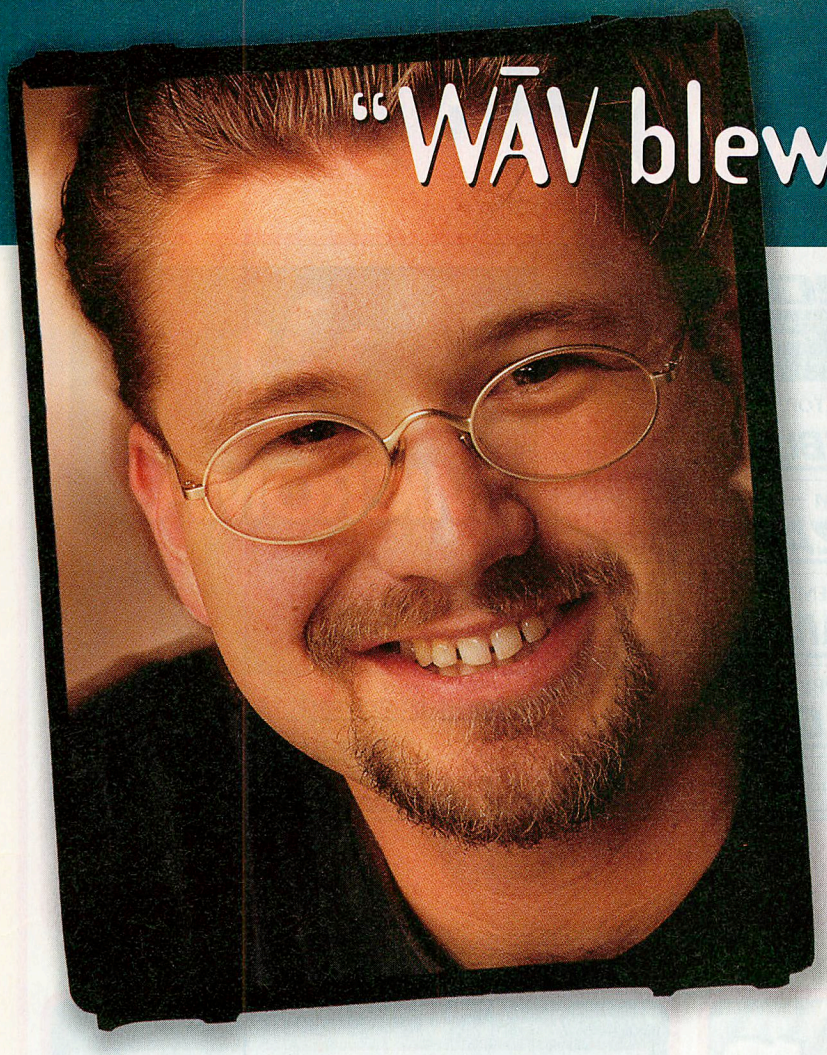
KALEIDOSCOPE CHANGES THE LOOK of your windows, menus, and buttons, similar to Greg Landweber's other program, Aaron, but with one big difference: You are not limited to the color schemes that come with the program. Ordinary mortals can make schemes and distribute them. That's what we did. Also in the User Interface folder is the *MacAddict* Look and Feel, which contains a *MacAddict* color scheme, as well as some Max icons.

HARD DRIVE

Welcome back to *MacAddict*'s serialization of David Pogue's Silicon Valley thriller. Find part four of *Hard Drive* in the Finder at the root level of The Disc, in which our software gurus put the final touches on their speech-recognition software, and the preorders come rolling in.



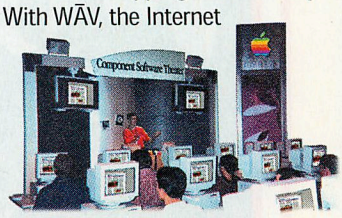
"WĀV blew me away."



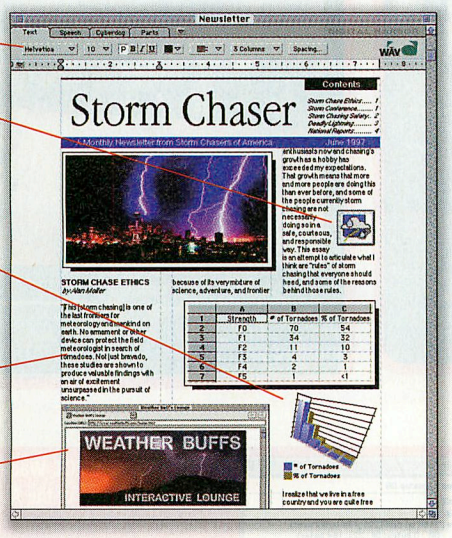
Create media-rich, living documents with the first `net-enabled word processor.

Imagine the control and the freedom to focus on *your documents*, instead of on bloated, "legacy" applications. You decide what functionality you need, or don't need, and you plug it in. **Imagine the power of components helping you work faster and easier in an intuitive workspace** with true drag and drop capabilities. With WĀV, simply grab and place nearly anything you want to utilize in your documents—period. Java™ Applets, URLs, component parts, Netscape™ plug-ins, e-mail text files, Word™ and WordPerfect® files, HTML files, PICTs, GIFs, JPEGs, graphs, sound files and QuickTime™ movies all become integrated parts of WĀV documents—*not just links* to system-consuming, traditional applications. **Imagine utilizing `net data instead of just browsing it** by dragging websites, information and `netfiles across your screen and dropping them directly into your documents. With WĀV, the Internet is *built in*, and truly becomes your own personal document resource. **Imagine the flexibility** of embedding cyber-buttons with direct links to `netsites—or if you prefer, *embedding the sites themselves* as living parts of your documents. **Imagine virtually no learning curve** and great compatibility with all your old stuff.

> "WĀV is the spiffiest word processor to come along in several years. It's elegant and intuitive, and its integrated Internet services are a godsend."
> ~ *Mac Addict, March '97*



MacWorld Expo'97 ~ Apple's® Component Theatre helps Macintosh users from around the world experience the simplicity and power of WĀV.



Folder Bay ~ Simple-to-use, easily accessible text controls are located here. You can also add your own project folders!

Cyber Button ~ Create single-click hot links from within your document to any Web, network, or other file location. Instantly launch local applications, sound or movie files, images and more.

Embedded Part ~ WĀV Documents are living documents™ where components can interact with each other—as well as with WĀV. In this case, "Numbers & Charts™" (component parts from Adrenaline™ Software)* display data in an active-3D graph linked to a spreadsheet. As data is edited, the graph automatically updates.

Dynamic Text Wrap ~ When you drag a part into your document, you'll see how existing text wraps around the part as you move it—all in real time!

Embedded Web Page ~ Never before has a world-class word processor come with built-in Internet navigation, browsing, viewing and retrieval tools as a part of its control panel. When you open documents, WĀV automatically opens live home pages or other embedded sites.

Other straightforward editing features include full tabs, colored text, search and replace, AppleGuide help, text to speech, word count, justification control, and full line-spacing. Most people only use about 3% of the text-editing features found in their traditional word processors. Now, you no longer need to lug around all that stuff! With component technology and WĀV, if you need extra text-handling features, simply plug them in later.

* WĀV installs complete with OpenDoc, Cyberdog (`Net Browser, E-mail, `Net Search, CyberButton, `Net Management), C100™ Components LEXI & C-TextBox, and Apple Live Objects Essentials (QuickTime™ Viewer, Image Viewer, 3DMF Viewer, Apple Draw, Apple Audio).

Stop imagining. Catch the WĀV.

WĀV™
The Next Generation Desktop™

Call 800-759-2204 to order!

only $69.99 *(+ shipping/handling)*

or download your free trial version at:
www.dharbor.com

Freakin' Awesome *rating, Mac Addict Magazine, March '97*

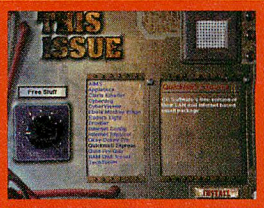
BYTE 1997 Editor's Choice *and 5-star technology rating.*

N.E.Mac BEST of SHOW *MacWorld Boston '96*

Component 100 MEMBER

WĀV incorporates the power of other Component 100™ Member companies including Cyberdog, Softlinc, and Corda. For more information on other component parts, visit the Component 100™ webpage at www.c100.org. Digital Harbor, L.C. is a private company with headquarters in Orem, UT, U.S.A. Digital Harbor™, WĀV™, Living Documents™, and The Next Generation Desktop™ are trademarks of Digital Harbor, L.C. All other trademarks or tradenames are the protected property of their respective owners. **System Requirements:** Macintosh/Power Macintosh, component application size: 1.6 MB, suggested memory: 8 MB (virtual memory on); 16 MB (virtual memory off) MacOS version 7.5.1 or later, OpenDoc 1.0.4 or later. Digital Harbor, L.C., 167 S. Orem Blvd., Orem, UT 84058, **www.dharbor.com**, (801) 224-5184, fax (801) 224-5183. ©1997 Digital Harbor, L.C. All rights reserved.

DIGITAL HARBOR, L.C.™

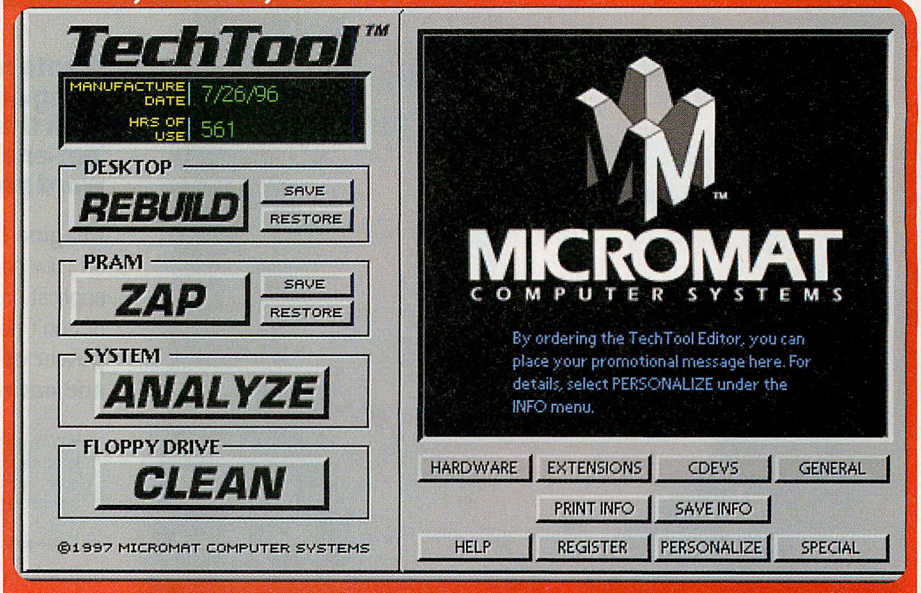


THIS ISSUE

To get the software off The Disc and onto your Mac, go to the This Issue section on The Disc. The dial on the left side of this page switches between Highlights and Every Month (just like the Table of Contents a few pages back). To turn the dial clockwise, click the right side of the dial (and vice versa to go counterclockwise). The middle column lists the article titles. Clicking an article title calls up, in the right column, a list of software to install. Click on the name of a piece of software to get its description.

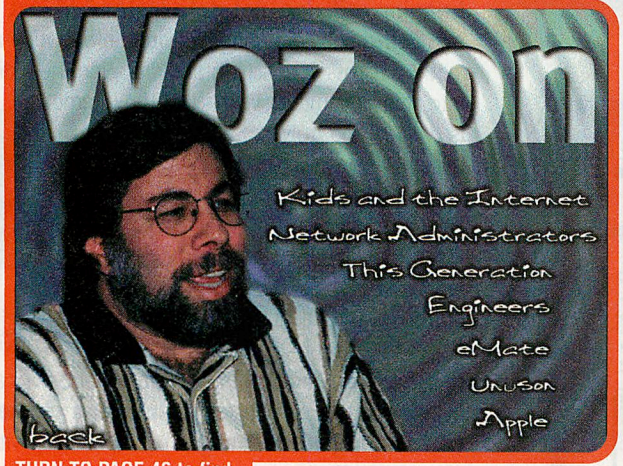
WHEN YOU SEE this icon in the magazine, find the mentioned software in the This Issue section of The Disc.

Gimme, Gimme, Gimme



FIND 15 FREE PROGRAMS on this month's disc. Most of them are Internet programs, but you'll also find such gems as MicroMat Computer Systems' TechTool, a super-duper tool for zapping your PRAM and rebuilding your desktop. In addition, you can see how long you've used your Mac.

Woz on...

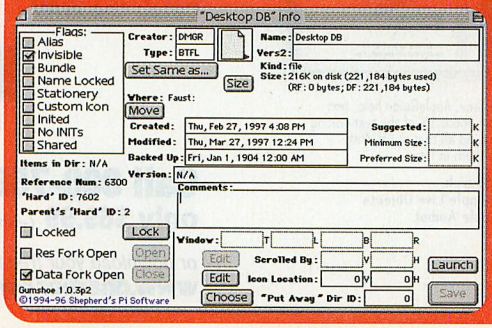


TURN TO PAGE 46 to find out what's on Apple co-founder Steve Wozniak's mind. Then, pop in The Disc, and click on the "Woz on" middle banner to get to this page. Here you'll find out what would make the Woz disown his own son, why he's jealous of this generation, and why he likes the eMate. (You can also get to this page via the index page.)

Reviews

PLUS, FIND DEMOS of Virtual Tourism Paris, Visual Page 1.0, and NumberMaze Challenge. Sigh—with just one glimpse of a QuickTime VR movie, this Mac addict was ready to pack her bags. Reviews start on page 56. (Sorry, we tried to put a demo of the Power Mac 6500 on The Disc, but it was too big.)

Ask Us



WE'RE NOT PERFECT. Wade changed the name of the Ask Us folder in the This Issue folder to "Get Info." Auto-Menus Pro, Gumshoe, Okey Dokey Pro, PrefsCleaner, RAM Disk Iconer, and ResEdit are all available in that Get Info folder. Shown here is Gumshoe, a shareware program that gives you info on files.

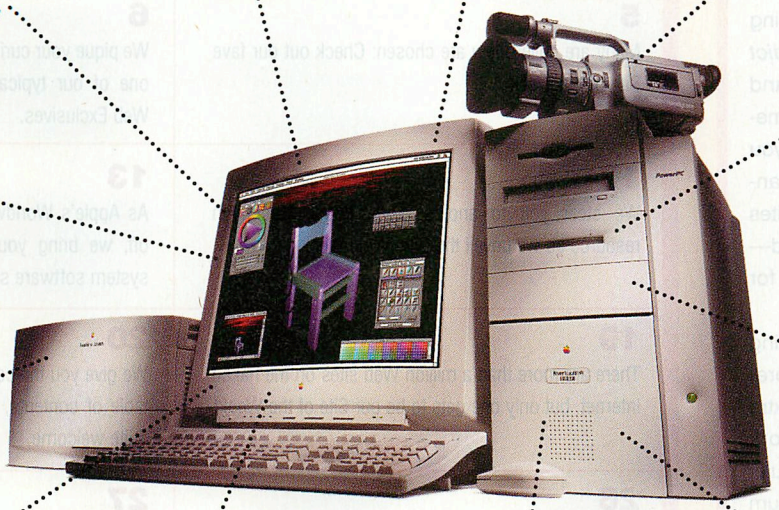
Work with the other guy. *We can. They can't. Apple® Macintosh computers can read and write Windows files. Add a PC compatibility card, and you can run Windows applications too. But don't ask a PC to run the Mac OS.*

Spin your own web. *You know, the kind with animation, sound, full-motion video and 3-D graphics. With built-in QuickTime Media Layer (it includes QuickTime, QuickTime VR and QuickDraw® 3D), you can create your own award-winning web site.*

Expand your computer to be much, much more. *With built-in technology like SCSI and the Apple Desktop Bus, you can connect to hard disks, scanners and trackballs in seconds. No .DLL files needed here. Better yet, it's the only computer that makes it easy to connect to multiple monitors.*

Become the next Hollywood mogul. *Video in/out ports let you plug a video camera or a VCR directly into the Power Mac 8600—so you can edit and create QuickTime movies and send it all to tape. Technology like that will surely impress the kids. Not to mention your boss.*

Get the new guy on the network faster than you can eat your bagel. *With high-speed Ethernet, TCP/IP and AppleTalk® protocols built in, the Power Mac® 8600 makes it a snap to connect to networks. (Hey, you have some cream cheese on your lip.)*



Power Macintosh 8600

Save your ideas in a zip. *(No pun intended.) A built-in Iomega® Zip™ drive (it's standard on the Power Macintosh® 8600, a snap to add to any other Mac) lets you take your ideas with you or send them far, far away. That brilliant idea will be long gone by the time you connect a drive to a PC.*

Get published. *No other computer makes it easier or faster to create and output mechanicals or layouts than a Macintosh. Funny, you almost never hear about anyone creating a mechanical on a PC.*

Create a new world. *In less than seven days, of course. A 200 MHz PowerPC™ 604e microprocessor, high-speed bus and accelerated video card give you the blistering speed to render, rotate, edit and manipulate images in seconds. With speed like that, no wonder* BYTE *said that "a high-end Mac still beats an MMX Pentium."††*

Show your true colors. *Without turning red. With built-in Apple ColorSync® you get consistent color from scanner to monitor to printer, so the color you see on the screen is the color you get on the page.*

Save time. Energy. Sanity. *Use AppleScript® to automate a whole slew of tasks. Like layout processes. Running multiple applications (they'll do their thing even if you're not around). Sorting e-mail. Downloading files and more. Suddenly, life just got easier.*

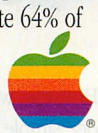
Count on the future. *Our enhancements to the Mac OS will take you well into the future—so the Mac you buy today won't be obsolete tomorrow. Whatever you do, don't throw away your past files and applications. They'll run, too.*

Throw away the screwdriver. *If you want to add memory and expansion cards, you'll find that a new hinged-side design makes it, well, a cinch to access the motherboard and all the drives.*

Warning:

Don't try doing any of these things on a Windows PC.

See those things above? They're easy to do on a Mac.® Try doing them on a Windows® PC, however, and they're not so easy. Unless, of course, you think it's easy to find extra time. And extra money. You see, a Mac comes with all the perfectly integrated hardware and system software you'll need to do what you want to do. So, right out of the box you'll be exploring the Net,* creating movies and connecting to networks, CD-ROM drives, hard drives and more. Not so with a Windows PC on your desk. Why? Because even if your PC has all the adapter cards and drivers you need (not all of them do), you may have to spend precious time learning about .DLL files and IRQ settings. And if you want to create multimedia that really moves, you'll have to add even more—most Windows PCs don't come with QuickTime.® No wonder the Mac is rated higher than Windows in ease of use, productivity and overall satisfaction.** And that Macintosh® is used to create 64% of all sites on the World Wide Web.† So, in case you find yourself thinking about buying a Windows PC, think again. You could be in for a shock. To learn more, visit us at www.apple.com.



*You know, of course, that you'll need an Internet service provider to start exploring the Net. **1996 Evans Research study. †According to an October 7, 1996, WebWeek study of 39 professional web design firms. ††Web Design Firms: State of the Industry." "BYTE magazine, February 1997.*

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the web site

Something new this time: a calendar of upcoming events on the *MacAddict* Web site. Yes, each and every day we'll have something new and spiffy for you to sample. Questions answered, art posted, Web sites and shareware plugged—it's your easy recipe for online-editor burnout!

Given that we're writing this several weeks beforehand, any number of extra goodies will surely work their way into the schedule. Think of it as a minimum estimate of the fun that's in store for you this month.

—Mark Simmons

Monday	Tuesday
5 Many are culled, few are chosen: Check out our fave Site of the Week.	**6** We pique your curiosity and inflame your senses with one of our typically scandalous and controversial Web Exclusives.
12 We steer you to another super-duper Macintosh resource as we unveil the Site of the Week.	**13** As Apple's Worldwide Developers Conference kicks off, we bring you all the latest news on Apple's system software schemes.
19 There are more than a million Web sites on the naked Internet, but only one gets to be our Site of the Week!	**20** We give you the complete scoop on our July issue—table of contents, review ratings, the works. You're quite welcome.
26 We'll be taking Memorial Day off to loll around in the park and read our shiny new copies of the July issue. Why not do the same?	**27** We use a sophisticated battery of motivational techniques to coax an exciting new Web Exclusive out of our famously shy staff.

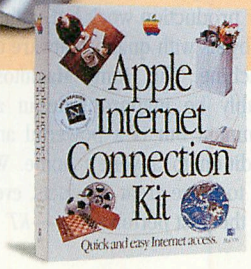
There's a faster, cleaner

Houston, we have liftoff. Presenting the Apple® Internet Connection Kit. Everything you need to blast onto the Internet, browse the web, and send e-mail in one simple to install, no hassle package. So what do you get? Well, the kit comes complete with Netscape Navigator™ 3.0 and Claris Em@iler™ Lite software, plus QuickTime® VR Player, RealAudio™ Player, Macromedia Shockwave, Adobe™ Acrobat™ Reader, Farallon's Look@Me, and a host of other software that installs easily in just minutes. As if that weren't enough, Apple Internet Dialer will even help you select an Internet Service Provider, and set up an account with just a few clicks of your mouse. And if you have any problems, Apple Guide online help can answer any Internet related questions you may have —

MAY 1997

Wednesday	Thursday	Friday
7 Join us for our regular Q&A Wednesday, as your online editor reaches into the question sack and answers all the easy ones.	**1** May Day! May Day! We kick off the month with a troubleshooting-oriented Shareware Pick of the Week.	**2** Psst! Wanna see what's up in the July issue of *MacAddict*? Check out our sneak peek!
14 Randomly selected questions get slightly less random answers on Q&A Wednesday.	**8** Hiding out from the early summer heat? Huddle indoors and play with our Shareware Pick of the Week.	**9** Don't forget—Sunday is Mother's Day! We'll jog your memory with a few subtle aesthetic reminders.
21 Bring us your dilemmas, your mysteries, your nagging questions yearning to be laid to rest. We'll light our lamp beside Q&A Wednesday.	**15** Our Shareware Pick of the Week takes the stage to demurely accept its award. "You like me, you really like me!"	**16** We post the latest additions to *MacAddict*'s online Reader Art Gallery for your delectation and amusement.
28 Why doesn't SimpleText support Undo? You may just find out on our regular Q&A Wednesday!	**22** Bring your confetti—it's time to celebrate the Shareware Pick of the Week.	**23** Your psychic friends at *MacAddict* read your mind with our latest exciting poll.
	29 What's hotter than the blazing sun yet cooler than a tall glass of lemonade? Must be our Shareware Pick of the Week.	**30** We look back on the month's highlights and finger the good, the bad, and the ugly happenings in the Macintosh universe.

way to get on the Internet.



like, "This was so easy, why didn't I do this sooner?" The days of plodding along with complicated connections are over. With Apple, getting on the Internet now happens at warp speed. Visit your nearest Apple reseller, or order by calling 1-800-950-5382, ext. 1401. Apple. The power to be your best.

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get info

News, trends, and other very valuable information that you will want to know.

Apple Prunes Its Product Line

But adds some tidy bundles

Performas are history. Now, before you go out and tell all your friends that Apple is abandoning the home market, listen closely. Performa sales tanked at Christmas. The name Performa just did not connote power. Apple had to do something and started by shedding the Performa name. Instead of positioning its computer lines by brand names, Apple will label all new desktop machines Power Macintosh and differentiate them by configuration and software package, targeting specific needs.

In the past, Performas were less powerful than the business-oriented machines. They generally came configured with less RAM, less CPU power, less hard disk space. One thing they did not lack, however, was a plethora of confusing model numbers and configurations. Apple is fixing this, as well as the name problem. Starting with the Performa 6400, home machines actually began to hold their own against business machines and not skimp on features such as CPU horsepower and RAM. (Learn more about the genesis of the 6400 in "Hacksaw Hackers," on the next page.) The 6400 was just the beginning. In early April, Apple rolled out an entire range of computers for the home, studio, and small-business markets.

> One thing Performas did not lack was a plethora of confusing model numbers.

The top-of-the-line Home Macintosh, which will set you back $2,999, sports an ultraspeedy 300MHz 603e processor, a whopping 64MB of RAM, a 4GB hard disk, 512K of Level 2 cache, and a Zip drive. In addition, an ATI Technologies RAGE II chip not only provides enough video memory to power thousands of colors at 1,152-x-1,024-pixel resolution on a 21-inch monitor but also packs all the features of the ATI Xclaim VR card, including QuickTime digitizing and 3D acceleration. The software bundle includes all kinds of useful software, ranging from ClarisWorks and Intuit's Quicken to Internet connectivity tools and atlases. It also includes four not-so-productive titles that take advantage of Apple's QuickDraw 3D Rave technology: Activision's MechWarrior II, Bungie Software Products' Weekend Warrior, and MacPlay's Virtual Pool and VR Soccer. (See our review of the Power Mac 6500, p58.) On the other end of the Home Macintosh spectrum, you'll be able to snag a 6400/180 for the low, low price of $1,299.

In addition to the Home Macintosh, Apple is making three other lines of Power Macintoshes: Small Business, Creative Studio, and PC Compatible. The Small Business Power Mac 4400/200 costs the same as the Home Macintosh Power Mac 6500/225 ($1,999) but has a completely different software package, which includes a special version of Microsoft Office with templates designed to get a small business up and running. The 4400 (see "Speed Can Kill," Apr/97, p28) is a desktop model that was designed to use industry-standard parts to save costs. (See "The New Power Mac Lines," on the next page, for configuration details.)

We approve of Apple's new direction. Instead of producing underpowered machines, these Macs make sense for the markets they target. The Creative Studio is not intended to replace a high-end Power Mac 9600 for production work but, rather, to entice hobbyists with quality software on a quality machine. The Home Macintosh would probably be inappropriate in an office environment but is a powerful and enjoyable addition to anyone's home. We look forward to more great products, even as we mourn the past performers. —*KT*

REASON 31

WHY THE MAC IS BETTER THAN A PC

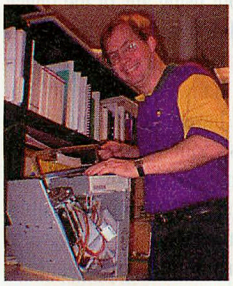
When you copy a folder full of files in Windows 95, you get a progress bar, but it's for individual files, not the folder. In other words, you have no idea whether you're copying a total of 10K or 100MB, nor do you know how long the whole copy operation will take.

Hacksaw Hackers

Hi-tech Sawbones Cut Loose

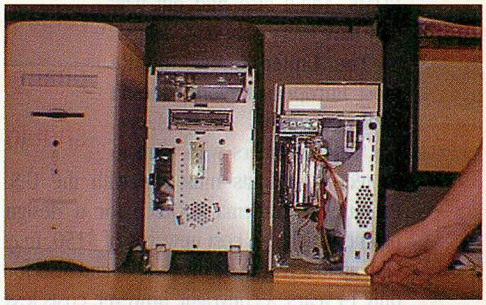
Late in 1995, Apple's marketing group looked around and realized that all kinds of PC clone vendors were selling tower cases to consumers. Looking at its home line, Apple realized that it lacked a consumer Macintosh in a tower enclosure. "We need a tower Performa" was the cry echoing down the halls in Cupertino.

The edict landed on the desk of Brian Girvin, an electrical engineer who really shouldn't have been designing enclosures. "I'd only been working for Apple for a little over a year and didn't want to step on anyone's toes," said the intrepid Girvin. Nevertheless, over Labor Day, Girvin took home an unsuspecting Performa 5300 and tore off all its plastic. "I wanted to make the smallest tower I could." What were the constraints? It had to be as tall and deep as a logic board, and as wide as a CD-ROM drive. "So I took out my hacksaw, put the 5300's logic board upright, and bolted its CD-ROM drive to a piece of plywood." Everyone went wild over Girvin's remodeling project.



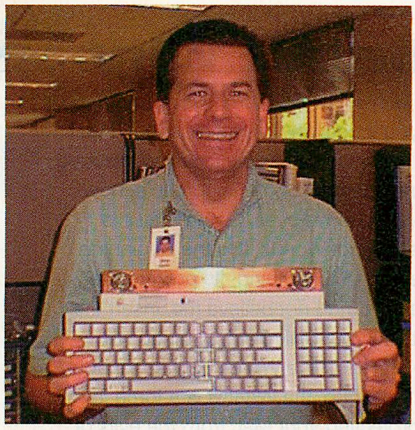
BRIAN GIRVIN WIELDS his hacksaw with glee.

From then on, the project's code name was Hacksaw. When Girvin was reassigned to the Tanzania team (May/97, p94), Hacksaw needed a new system integrator. Personnel must have been really tight, because the project went to Doug Farrar. "I don't even know how to spell system integrator, and they wanted me to be one," quipped Farrar. (A system integrator puts all the pieces together.)



THE ORIGINAL "HACKSAW" MAC (right), complete with a vertically oriented floppy. Maybe now that Steve Jobs is back, Mac addicts in the United States will be able to purchase those chichi black models that the Japanese and Europeans have had.

Farrar was angry. After working at Apple for 12 years, he felt he deserved a little autonomy. He had been working on a way to miniaturize audio amplification, which was much more interesting to him than integrating a box. But engineers don't stay mad for long; they get even. "I'm in a funk, kind of mad, and I was sitting there looking at this box and saw a huge hole in the bottom. I thought, 'You could put a subwoofer in there.'"



GIVE DOUG FARRAR AN INCH, and he'll give you a mile of speakers.

And that's just what he did. Two days and several feet of copper sheeting later, Farrar emerged with a mockup subwoofer that actually worked. In addition, Farrar figured out how to put a surround-sound chip in this new tower.

Now that the Performa 6400 is out, the two notorious engineers only wish that their creation's unique qualities were better appreciated. "It just kills me when I see the 6400 on display in stores hooked up to a subwoofer," bemoaned Farrar. —*KT*

"I wanted to make the smallest tower I could."

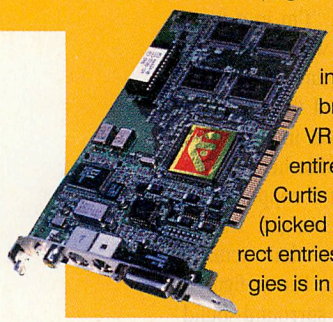
The New Power Mac Lines are based around three machines: the 6400 currently for sale and two new machines, the 6500 and the 4400.

Model	Processor	RAM	Hard Drive	L2 Cache	Other	SRP
HOME MACINTOSH						
Performa 6400/180	180MHz 603e	16MB	1.2GB	Optional		$1,299
Performa 6400/200	200MHz 603e	16MB	2.4GB	256K		$1,599
Power Mac 6500/225	225MHz 603e	32MB	3GB	256K		$1,999
Power Mac 6500/250	250MHz 603e	32MB	4GB	256K	Zip drive	$2,299
Power Mac 6500/300	300MHz 603e	64MB	4GB	512K	Zip drive	$2,999
Includes productivity, Internet, multimedia, and entertainment software.						
SMALL BUSINESS						
Power Mac 4400/200	200MHz 603e	32MB	2GB	256K		$1,999
Power Mac 6500/250	250MHz 603e	32MB	4GB	256K	Zip drive	$2,599
Includes Microsoft Office, Internet tools, all the small-office software you could want except accounting, and the Small Business Financial CD authored by Apple.						
CREATIVE STUDIO						
Power Mac 6500/275*	275MHz 603e	32MB	4GB	512K	Avid Cinema, TV Tuner	$2,999
Includes video, photo, art, music, and 3D software. Drool.						
PC COMPATIBLE						
Power Mac 4400/200	200MHz 603e	40MB	2GB	256K		$2,399
Includes 166MHz Cyrex 586 chip and PC software bundle. RAM is 32MB for Mac, 16MB for PC.						

All models include a 12X CD-ROM drive and a 33.6Kbps modem, except the 6400s, which have an 8X CD-ROM drive and a 28.8Kbps modem, and the PC Compatible 4400/200, which does not include a modem.

Whatsit Winner

The contest in our March issue (p26) asked you to identify a certain gadget. Most of the 1,600-plus entries we received included the correct answer. John Gendreau's, however, did not. In his eyes, "The Whatsit is the Destroyer of Worlds. It is the Beginning and the End of Everything. Its powers are horrible. If you do not believe me, insert the Whatsit into your disk drive, and you will receive a taste of the Whatsit's unspeakable wrath." No, John, the Whatsit is a force for good, protecting your Mac from the evils of dust devils. It's a PCI slot cover. Curtis Christie of Winnipeg, Manitoba, will be removing one of his Mac's slot covers in order to install his brand-new ATI Xclaim VR card. We think it's entirely appropriate that Curtis was our winner (picked at random from correct entries), as ATI Technologies is in Canada, too. —*KT*



Find Clarus! And Win These PhotoSphere Discs

Pull out your reading glasses and magnifiers and start hunting! This month we've hidden Clarus the dogcow somewhere in *MacAddict*'s pages. You'll have to find him (and no, the one shown here doesn't count) to enter our contest to win these five fantastic stock photo CDs worth $1,000 from PhotoSphere Images (800-665-1496; http://www.photosphere.com). Log onto our Web site at <http://www.macaddict.com/contest.html> and let us know on which page Clarus is hiding, or mail us your entry to Where's Clarus?, c/o *MacAddict,* 150 North Hill Drive, Suite 40, Brisbane, CA 94005. Happy hunting!

Save the Fonts

Ticked-off type designers fight back

Life isn't fair, and nobody knows that better than the ticked-off designers of TypeRight, an advocacy group out to win copyright protection for U.S. type designers. Check out the group's Web site at <http://www.typeright.org>, and you'll find a few mad-as-hell rants by designers screaming that they've been robbed by font rip-off artists who copy their designs and sell them on cheap font collection CD-ROMs. You'll also find out why they have every right to be angry.

The United States, unlike most European nations, doesn't issue copyrights on typefaces. U.S. type designers who want to protect their fonts must file with the U.S. Patent and Trademark Office for a design patent, which can cost upwards of $150, may take up to a year to be processed, and lasts for only 14 years. A copyright, however, costs less than $30, takes effect as soon as the material is created, and lasts as long as the creator lives, with an extra 50 years after death for good measure.

Copyright laws regarding typefaces have not been revisited since desktop publishing turned the type design industry on its ear in the early '80s. Prior to the Mac and the invention of the PostScript page-description language, only large foundries had the equipment needed to create typefaces. Now, with the addition of the Internet for easy access and distribution, fonts can be created, sold, and passed around by anyone with a computer. People with loose morals and a teflon conscience can easily scan a printout of a font, autotrace the outlines in a program like Macromedia's Fontographer, and duplicate the font without using any of the digital data in the original design. This is legal.

Now that the rules have changed, so should the laws. Many type designers are getting fed up and have quit creating shareware fonts. Unless font fans want to see a continual decline in the already scant number of quality shareware fonts available, they're going to have to start getting vocal with their government representatives. TypeRight is also asking people to pay their shareware dues and to think twice before buying low-cost font collections from vendors of questionable repute. Crimes like these really shouldn't pay. —*NE*

Now that the rules have changed, so should the laws.

By Any Other Name

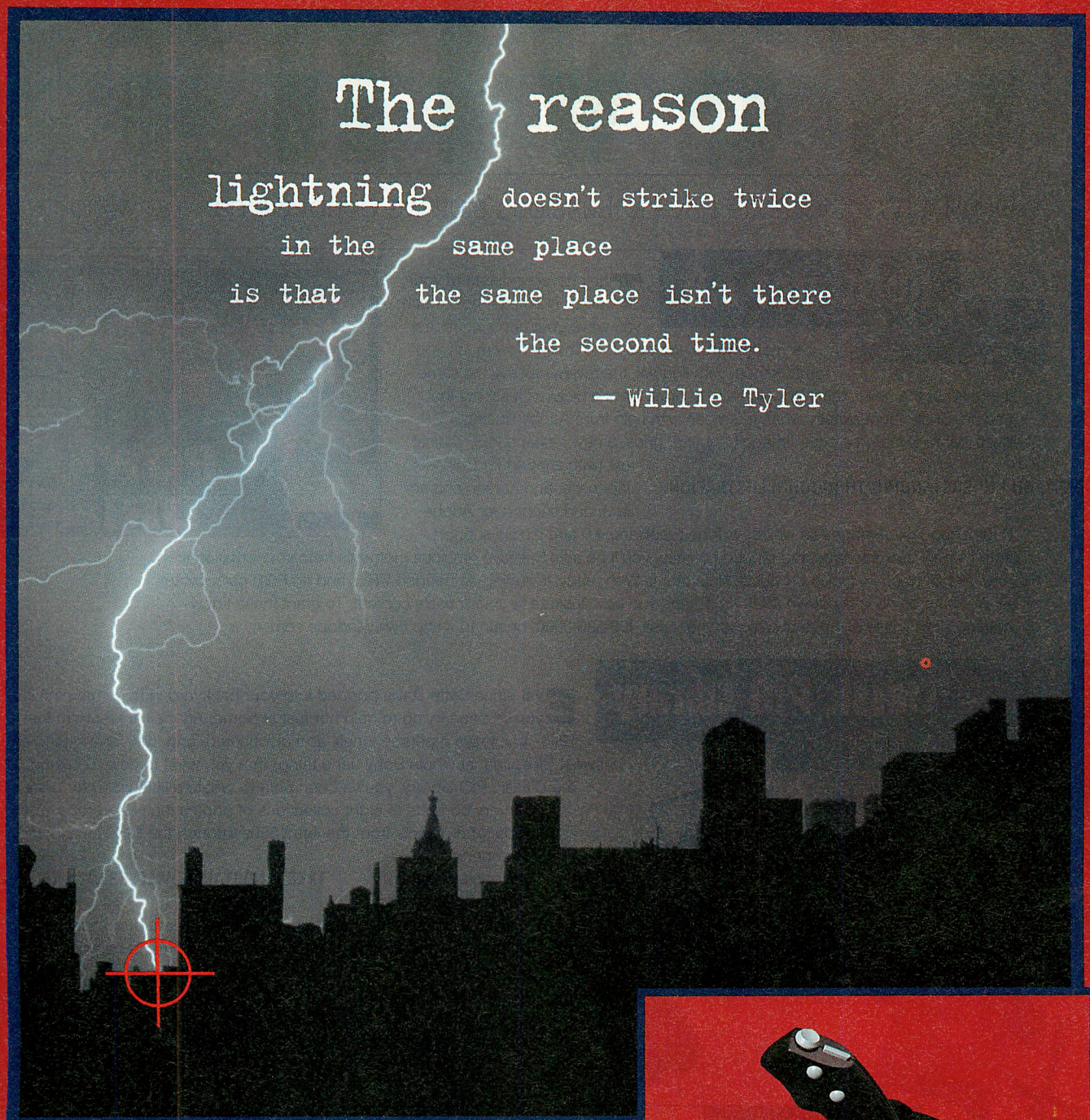
It's still the Mac OS

The next Mac operating system was originally named the Copland project and then renamed Mac OS 8. Then Copland was stalled, OS 8 was killed, and Rhapsody was thought up, ready to arrive in a year or so. In the meantime, Mac users could look forward to a couple of new Mac OS generations, first Harmony (Mac OS 7.6), then Tempo (Mac OS 7.7). Then things changed. The OS formerly known as Tempo (and formerly formerly known as Tempo) is now Mac OS 8, and it should arrive this summer.

Head hurt yet? Good. Here's all you really need to know in the form of some pain-relieving bullet points about recent OS name changes:

- The next Mac operating system to be released after Mac OS 7.6 will be Mac OS 8. Forget Tempo. Forget Mac OS 7.7.
- The reason it will be known as Mac OS 8 is that it contains the most radical overhaul of the Mac OS since the release of System 7 back in the early '90s.
- Another, unconfirmed (but suspiciously interesting) reason for the name change is that by calling the next system OS 8, Apple can renegotiate terms with Mac cloners, who have licenses for only Mac OS 7.x.
- Mac OS 8 will take some features from the now-defunct Copland (such as the Copland Finder), but it will not be Copland.

What does the future hold for the names of Mac operating systems? Apple has a few to name, including Allegro (the Mac OS after Mac OS 8), and Rhapsody. Got any spiffy ideas for names? Send them to <letters@macaddict.com>, and we'll all have a good chuckle. —*DR*



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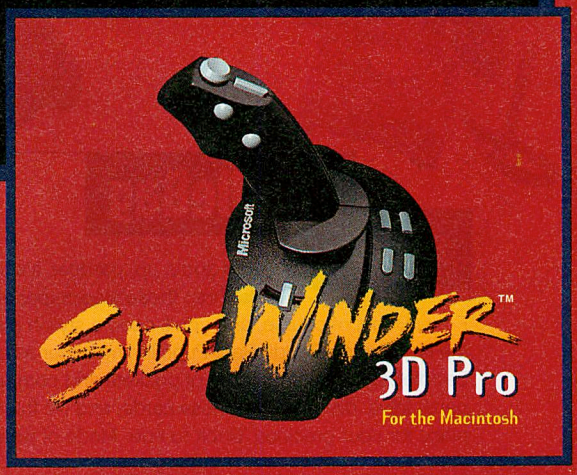

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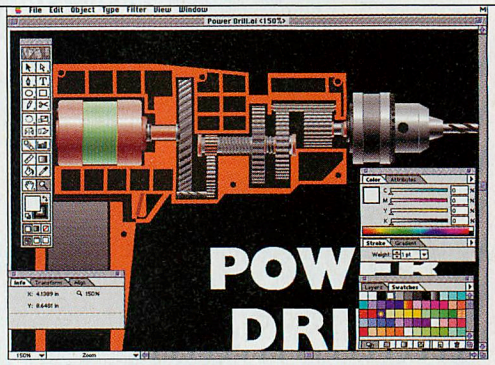
cravings

Need it. Want it. Gotta have it: Luscious stuff we doubt we can live without.

Illustrator 7.0

Adobe Systems



They never understand your ideas. No matter how much you wave your arms, no matter how many words you spout, no matter how much you smack them with linguini, the reviews all say the same thing: What the hell is this? Do you have to draw them a picture? It seems that you do. Show them exactly what you mean with help from Adobe Illustrator 7.0. Illustrator now features better image handling, grids, a new reshape tool, vertical text (with support for Chinese, Japanese, and Korean characters), and support for Adobe Photoshop raster images as well as Adobe FreeHand 4.0 and 5.0 file support. With its new user interface and tabbed palettes, you'll be able to shave precious moments from your creation time. And, like all good graphics products, Illustrator is Web ready, including embedded URLs and an RGB color picker. All you have to do is lay down $595 (SRP) and you can illustrate to your muse's content. To grant those know-nothing dolts a little glimpse of a higher truth, call 408-536-6000, or surf to <http://www.adobe.com>.

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Classic PIO Partners

Ever since Bette Davis popped into your backyard in her time machine, you've been trying to help her feel at home. After all, travel from the 1940s can leave a person lonely and disoriented, and, well, she's been so sweet (despite that whole Baby Jane thing) that you want to help. By using the Classic PIO Library, you've been able to create a little world for Bette. The library consists of eight collections of photos featuring props, memorabilia, and objects from the late 1880s through the 1970s, including telephones, microphones, entertainment items, radios, fabrics, and business equipment. All images are drum-scanned for high quality, and each collection features 20 image objects in two views and at two resolutions. Best of all, the images are royalty free, which means keeping Bette in images without emptying your savings account. Each collection runs only $69.95, except for the sampler collection, which is $49.95, and the two-disc fabrics collection, which is $99. Contact Classic PIO Partners at 800-370-2746 for more information.

TAKE A NOSTALGIC WEB-READY TIME TRIP.

SaddleBag

Kensington

Saddle up, pardner. It's time to ride past that urban prairie into those skyscraper arroyos. You'll be packing an Apple PowerBook, of course, and you'll need a stylish place to put it. Look no farther than the Kensington SaddleBag. Functioning either as a backpack or a briefcase, the SaddleBag offers a plethora of pockets and compartments to hold cellular phones, pens, keys, diskettes, business cards, and file folders, as well as a specially padded place for your precious 'Book to ride. Made of water- and stain-resistant fabric (great for repelling road grit on those dusty trails), each SaddleBag comes complete with faux nubuck trim. Whatever that is, it's soft and goes great with chaps and cowboy boots. Even better, you can get all of this for less than $100, and it comes with a lifetime warranty and toll-free technical support when you're too sauced on rotgut to figure out how that buckle works. To protect your PowerBook on those long rides, contact Kensington at 800-535-4242, or point your browser to <http://www.kensington.com>.

A SPORTIN' SADDLEBAG FOR THE END OF THE MILLENNIUM.

Masterpiece

Alps Electric

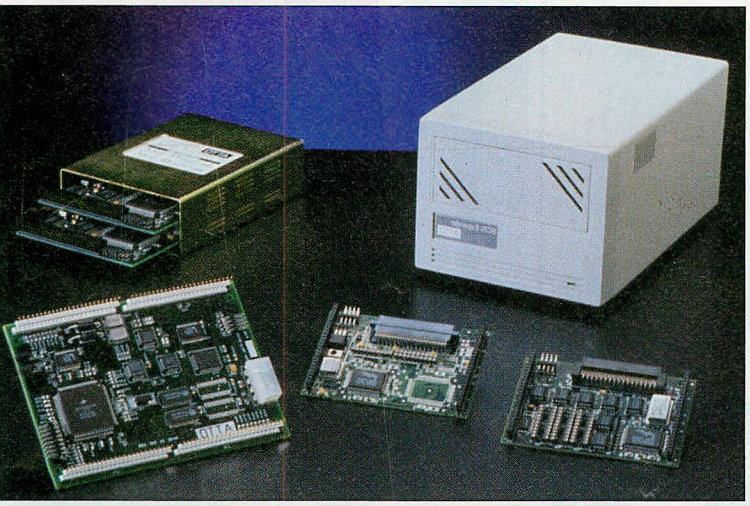
For years, you've dreamed of working at the PhotoMat. A booth of your very own in a vast strip-mall parking lot, why, that's better than a fiefdom (except for the cool moat-and-drawbridge thing, but you can always add one of those). Problem is, the folks who take your applications, although they know you by name, don't seem to share your enthusiasm, and that restraining order, well, that doesn't help. Thanks to Alps Electric, for only $749 (street) you can set up your own one-hour photo booth in your living room with the Masterpiece Photographic-Quality Color Printer and some digital images.

PRINT PERFECT PHOTOS PAINLESSLY.

The Alps Masterpiece, when used with special dye-based ink cartridges and paper, delivers printed images virtually indistinguishable from photographs to the naked eye. You can also use Alps' regular ink cartridges and everyday paper to print some mighty nice color sheets. Sporting a 600-x-600-dpi resolution (1,200 x 600 dpi in black and white), the Masterpiece also puts its waterproof and fadeproof mark on labels and stickers. It even comes with a CD of images, so you can start printing other people's pictures right away. Let's see your neighborhood one-hour photo service do that. Call 800-825-2577, or go to <http://www.alpsusa.com> for more information.

SCSI Expander

ATTO Technology



As a caster fanatic, you look longingly at each dolly and hand cart that passes your way, instantly identifying the type and year of manufacture for each caster that crosses your path. You long to catalog all the caster variations in the world, but that would take terabytes of disk space, and you're limited to one lowly SCSI port. Buck up, caster camper. ATTO's SCSI Expander is there for you. For only $495, you can expand your Mac's SCSI port to support up to 105 SCSI devices over a wide SCSI bus. With SCSI Expander, you won't even have to open your system. Just think: 105 4GB drives all hooked to your Mac, all able to transfer up to 20MB per second, and all alive with vital caster data. You could even mount them on casters! But you'd better be careful powering-on that many drives at one time: You may brown out your whole block. For more information, call 716-691-1999, or go to <http://www.attotech.com>.

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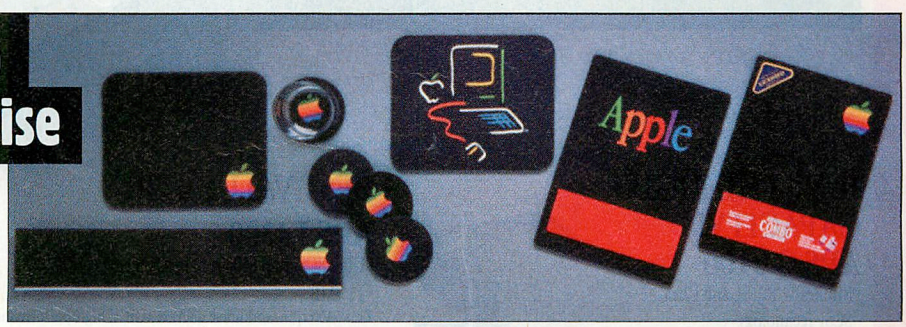
Computer Expressions



You're a true Mac addict in a Windows world. Your six-colored flag flies over your desk at work, situated among all those users of the "other" platform. Look at them—all gray and boring, leading their pathetic little lives with a pretender of an operating system. Want to rub a little Apple in their faces? Call Computer Expressions at 800-443-8278, or go to <http://www.CompExpress.com> for your official Apple stuff for your computer. The classic Picasso mousepad and the Apple logo mousepad are here, and you can get an Apple logo wrist rest to combat that nasty carpal tunnel syndrome. Or, if you prefer, there's a Combo pad that features the Apple logo on a combination mousepad and wrist rest. Computer Expressions also has a mini Apple wrist rest, a double-sided mousepad with both Apple logos, a see-through flip-top mousepad with an Apple logo, and Apple coasters and NotePads. Prices range from $7.50 to $17.50, so you can break your Windows-using co-workers' spirits without breaking the bank.

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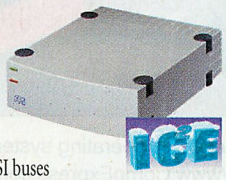
APS Q 2100



- MR heads, PRML and Ultra SCSI Technology
- Reliable 4500 rpm mechanism
- Works on SCSI-2 and Ultra SCSI buses

Give your Mac the extra storage space it needs by installing the new APS Q 2100. At only 15¢ per MB internal, the APS Q 2100 is the value leader in 2GB SCSI hard disk drives.

Quantum

$299.95 *Internal configuration*

BEST VALUE 4 GIG

APS I 4300

- Ultra SCSI bus, 5400 rpm mechanism
- 15¢/MB

This 5400 rpm workhorse delivers 4GB of high-performance data storage. Don't let its low cost fool you, this drive is truly a thoroughbred, delivering sustained read transfers of up to 6.4MB per second and sustained write transfers of 7.3MB per second. The drive features MR heads and a digital PRML channel.

IBM.

$599.95 *Internal configuration*

BEST VALUE IN CD-R!

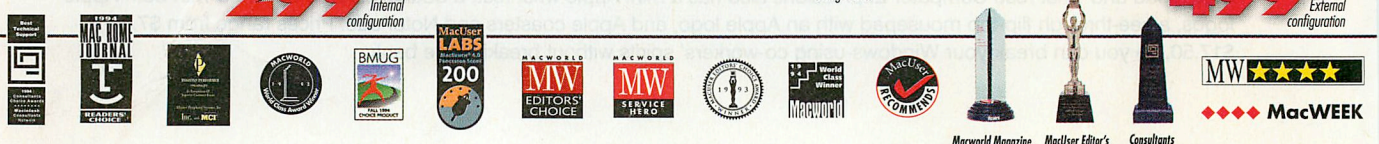
APS CD-R Plus

SONY.

- 2X record, 6X read mechanism
- Your choice of Toast, Discribe or Retrospect

2X recording and 6X CD-ROM playback, makes this drive ideal for creating multimedia CDs or backing up a hard disk drive at double speed. The APS CD-R Plus includes your choice of Toast, Discribe mastering software or Retrospect backup software.

$499.95 *External configuration*



THE NAME TO REMEMBER IN MAC COMPATIBLE PRODUCTS

ASK US FOR THIS WEEK'S M•POWER VALUE SYSTEM!

The APS M•POWER Line of High Performance Mac OS Computer Systems!

Software Now Included FREE with APS systems

- Claris Works®
- Claris Organizer™
- Claris Home Page®
- Macintosh System 7.5.3 or later
- Nisus® Writer 4.1
- PowerMerge LE
- DiskFit Direct™
- QuickMail™ Express
- Web Arranger 30-day trial
- QuickKeys 30-day trial
- America On-Line

APS M•POWER 603e180™ comes with these appointments:180MHz Motorola® PowerPC 603e processor • 1.2GB hard drive • 12X CD-ROM • 16MB of DRAM • 1MB of VRAM • Desktop enclosure w/3 PCI slots • 2 year limited warranty. **Just $1199***

APS M•POWER 603e200™ comes with these appointments: 200MHz Motorola® PowerPC 603e processor • 1.2GB hard drive • 12X CD-ROM • 16MB of DRAM & 256K L2 Cache • 1MB of VRAM • Desktop enclosure w/3 PCI slots • 2 year limited warranty. **Now $1499***

APS M•POWER 603e240™ comes with these appointments: 240MHz Motorola® PowerPC 603e processor • 2.5GB hard drive • 12X CD-ROM • 24MB of DRAM & 256K L2 Cache • 1MB of VRAM • Tower enclosure w/5 PCI slots • 2 year limited warranty. **Only $1799***

APS M•POWER 604e200™ comes with these appointments: 200MHz Motorola® PowerPC 604e processor • 2.5GB hard drive • 12X CD-ROM • 24MB of DRAM & 512K L2 Cache • 2MB of VRAM • Tower enclosure w/5 PCI slots • 2 year limited warranty. **Just $1899***

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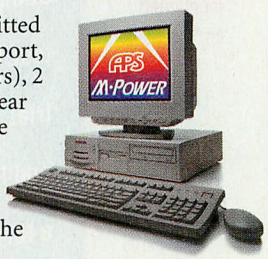

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*Monitors are not included. Filling all available drive bays may exceed power limitations.

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MacUser LABS MacBench 4.0 Processor Score: 365 (604e200) 282 (603e200)

604e200	◆◆◆◆	MacWEEK
603e245	◆◆◆	MacWEEK
603e200	◆◆◆	MacWEEK
603e180	◆◆◆	MacWEEK

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Model	Capacity	Internal	SR2000
†**APS Q 1280** Quantum Fireball™	1222MB	$229.95	$299.95
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APS Q 3200 Quantum Fireball ™	3067MB	349.95	399.95
APS I 4300 IBM DCAS - 4330	4137MB	599.95	649.95
APS Q 4300 Quantum Atlas II	4341MB	899.95	949.95
APS WD 4300 Western Digital Enterprise	4157MB	799.95	849.95
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Call for a complete list of available APS Hard, Removable, Tape Backup and CD-Rom Drives.
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APS REMOVABLE DRIVES

Model	Capacity	Internal	SR1000	SR2000
APS M540 (with 1 cartridge)	515MB	N/A	N/A	$249.95*
APS 230 MO	217MB	$299.95	*299.95	379.95
APS 640 MO	606MB/ New 2MB cache		N/A	599.95
APS SQ 5200	190MB	N/A	N/A	389.95
APS Jaz (with 1 cartridge)	1GB	N/A	$399.95	499.95
APS Jaz (with 3 cartridge)	1GB	N/A	599.95	599.95

APS POWERBOOK DRIVES

APS Powerbook Drive	1000MB	$599.95	N/A	N/A

APS TAPE BACKUP DRIVES

Model	Capacity	Internal	SR2000
APS HyperQIC™ Travan 4 Conner QIC 3095	8GB	$349.95	$399.95
APS HyperDAT™ DDS-2 DC	8GB	749.95	799.95
APS HyperDAT™Pro DDS-2 DC	8GB	849.95	899.95
APS HyperDAT™III DDS-3 DC	24GB	1149.95	1199.95

APS CD DRIVES

Model	External
APS CD12 12X CD-ROM in Slimline case	$159.95
APS CD-R Plus 2X6 CD-R	499.95

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gimme! gimme! gimme!

Fire up your Mac and get on the fast track to Web freebies!

By Nikki Echler
Photos by Aaron Lauer

FIND THE FREEWARE mentioned on The Disc.

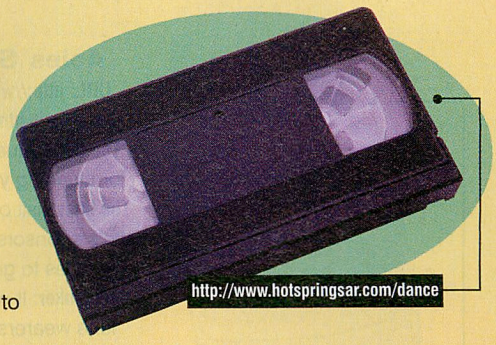
FIND LINKS to these URLs and others on our Web site.

If you like to try before you buy, the best place to do your product sampling these days isn't your local grocery store; it's the Internet. Companies are making it easier than ever to taste-test, try out, and test-drive their products by offering trial samples, contests, drawings, prizes, and lots and lots and lots of goodies to anyone willing to leave a forwarding address. Some of the companies let you phone in your request, but the Web really is responsible for the proliferation of free stuff.

When we say "free stuff," we're not talking just virtual free stuff that you can enjoy only online. No, we're talking free stuff that you can actually hold in your hands, open up, and drink. We're talking thirst-quenching, belly-busting, money-saving, bubble-blowing, fish-bobbing free stuff that will show up in your mailbox in a mere four to six weeks. The more you look, the more you'll find. After only a week of casually browsing the Web, we ordered and signed up to win more than 100 free products ranging from teddy bears to tampons to an all-expenses-paid trip to Egypt. Remember, of course, that these giveaways cost companies sometimes significant amounts of money. We urge you to be understanding and order only the items that truly interest you.

That said, waste no time in your search for samples. Once the word is out on particularly fine freebies, they're gone faster than pocket protectors at a nerd convention. Check out our mondo list of free products and prizes that we have personally found, used, or ordered to get a head start on the good stuff. Don't be surprised if some of these offers are already unavailable by the time you get there, but don't be discouraged, either. Bigger, better, badder freebies are listed every day, and we'll tell you how to find those, too.

Samples and Gifts



Chef Merito

URL: http://www.chefmerito.com/free.html
The hook: Mexican- or Spanish-style yellow rice.
The line: Just send an email.
The sinker: You have to cook it yourself.
Freebie season: Limited supply.
Delivery time: We've been waiting for more than a month.
What it's worth: Less than $2.

Flonase

URL: http://www.flonase.com
The hook: An allergy kit.
The line: Mini survey asks what medication you currently use to treat that nasal drip.
The sinker: You don't get any real drugs, just coupons.
Freebie season: Limited supply.
Delivery time: It has been three weeks, and we're still waiting.
What it's worth: $5 coupon for Flonase and a free subscription to the company's allergy newsletter, *On the Nose.*

Signature Color

URL: http://www.signaturecolor.com/2.htm
The hook: Two rolls of 35mm, 20-exposure color print film.
The line: Fill out a mini survey.
The sinker: You still have to pay to get it developed.
Freebie season: Ongoing.
Delivery time: Two weeks.
What it's worth: $4.

Jelly Belly

URL: http://205.158.47.41/StartSurvey.cgi
The hook: Teensy-tiny 1-ounce bag of Jelly Belly Beans.
The line: Fill out a survey on your favorite beans and rate the sample flavors they're working on, like—gulp—nacho cheese.
The sinker: You have to be one of the first 500 people to answer the survey each day.
Freebie season: Ongoing.
Delivery time: Three to four weeks.
What it's worth: Less than $1.

McGraw-Hill

URL: http://www.betabooks.mcgraw-hill.com
The hook: A sneak read of the company's computing books before they reach print.
The line: Click on the book you want to read and go to it.
The sinker: The limited selection of Mac books makes the free peek less fun.
Freebie season: Ongoing.
Delivery time: No delivery required.
What it's worth: About $40 per book.

Alacer

URL: http://arxc.com/alacer/request.html
The hook: Two vitamin C tablets.
The line: Simple survey asks if you're a consumer or a retailer.
The sinker: Samples are limited to one per household.
Freebie season: Limited supply.
Delivery time: About four weeks.
What it's worth: Less than $1.

L'eggs

URL: http://www.leggs.com/ring/ring.html
The hook: Pantyhose coupons.
The line: Fill out a short personal survey. One of the questions asks you to state your gender… maybe so the company can finally target its expanding transgender market?
The sinker: Money-saving coupons do not equal free.
Freebie season: Limited supply.
Delivery time: Fewer than two months.
What it's worth: $2.

Roman Research

URL: http://www.simplywhispers.com/index.html
The hook: A pair of allergy-free earrings (specify pierced or clip-on) and a catalog.
The line: Fill out an email request form and they're yours.
The sinker: The earrings aren't real gold, just gold-plated.
Freebie season: Limited supply.
Delivery time: Four to six weeks.
What it's worth: $5.98.

Thompson's Pasta Plus Pet Food

URL: http://www.Thompsons.com/tp-friend.html
The hook: Coupon for a free 4-pound bag of pasta pet food.
The line: Fill out a brief survey and provide the name and contact info of one of your pet-loving pals. (They'll get coupons, too.)
The sinker: You have to own a pet to appreciate the savings.
Freebie season: Ongoing.
Delivery time: If it doesn't arrive within a week, call the folks at Thompson's (800-228-3PET) and they'll set things straight.
What it's worth: $4.49.

Psychic Zone

URL: http://www.psychiczone.com/main.html
The hook: Tarot cards.
The line: Email the psychics your address and just enough personal data to let them read your mind the next time you call their 900 number.
The sinker: No one tells you how to read the darn things.
Freebie season: It's not showing up in our crystal ball, and they're not telling us.
Delivery time: At least three weeks, if not longer.
What it's worth: Less than $10.

Uvex

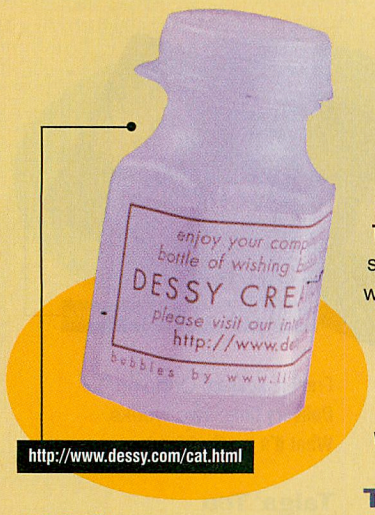
URL: http://www.uvex.com/uvexform.html
The hook: A stylish pair of Uvex flashback safety glasses.
The line: Fill out a survey to see if you qualify for the offer.
The sinker: The glasses are so nice, you'll want to wear them even when you're not spraying chemicals on your manicured bushes.
Freebie season: Ongoing.
Delivery time: Two weeks.
What it's worth: $8.15.

Taiga Tea

URL: http://www.taigatea.com/order.html#sample
The hook: A sample of Siberian ginseng tea.
The line: Email the company the name and address of your favorite health food retailer.
The sinker: You have to like health food. Um, pass the Twinkies, please.
Freebie season: Ongoing.
Delivery time: Two to four weeks.
What it's worth: 35 cents.

EnviRoMedia

URL: http://www.crazybob.com/floppies.html
The hook: One high-density floppy disk.
The line: Send an email with your request, or just call 800-776-5865.
The sinker: Does anyone still use floppies?
Freebie season: Ongoing.
Delivery time: Three to five weeks.
What it's worth: Less than two shiny quarters.



M&M's Studios Bakery

URL: http://www.m-ms.com/bakery/survey.html
The hook: A recipe book for M&M chocolate baking bits.
The line: Fill out a brief survey on your baking habits and chocolate preferences.
The sinker: Some of us will get fatter just thinking about ordering the book.
Freebie season: Ongoing.
Delivery time: They don't know.
What it's worth: 10,000 fat grams.

Tony Chachere's Creole Foods

URL: http://www.cajunspice.com
The hook: Sample packets of Tony's Creole seasonings, four recipes, a year's subscription to a quarterly catalog, and an entry into a weekly drawing for a Tony Chachere gift basket.
The line: Send an email, or call 800-551-9066.
The sinker: You get stuck with the quarterly catalog.
Freebie season: Ongoing.
Delivery time: About two months.
What it's worth: Less than $1.

AT&T Wireless Services

URL: http://www.attws.com/nohost/aviation/av_frm.html
The hook: One 3-minute inflight calling card.
The line: Fill out a lengthy survey on your flight habits.
The sinker: The card works only on select airlines, and United isn't one of them.
Freebie season: Limited supply.
Delivery time: Three weeks.
What it's worth: $2.99 a minute.

Acies Sunglasses

URL: http://www.greatshades.com/_.win.html
The hook: Quality chamois cloth for cleaning your glasses.
The line: Visit one or more of the site's sponsors and then register with Acies to get your freebie.
The sinker: It won't help contact-lens wearers.
Freebie season: Ongoing.
Delivery time: 90 days.
What it's worth: Less than $10.

The Hot Springs Promenade

URL: http://www.hotspringsar.com/dance
The hook: Dance Basics Plus free promotional video.
The line: Order by email or by dialing 800-224-5534.
The sinker: You learn only four steps that you probably already do without realizing it.
Freebie season: Ongoing.
Delivery time: Fewer than six weeks.
What it's worth: The shipping and handling fees are probably more expensive than the tape.

1-800-Collect

URL: http://www.1800collect.com
The hook: Nine dollars' worth of long-distance calls.
The line: Three chances to win at a virtual slot machine, which is rigged so that no one goes home a loser. If only the slots in Vegas were this beneficent!
The sinker: If you have any questions about the offer, you have to snail-mail the company—it doesn't offer an email address or a customer service number.
Freebie season: Expires June 30, but the site hints that new give-aways will follow.
Delivery time: Unknown.
What it's worth: Um, $9.

Fractal Design

URL: http://www.fractal.com
The hook: A cool calendar designed to inspire you with examples of artwork created using Fractal Design products.
The line: You have to call 800-846-0111 and ask for it.
The sinker: June isn't really a hot season for wall calendars.
Freebie season: While supplies last or until the end of the year, whichever comes first.
Delivery time: Two to three weeks.
What it's worth: A couple of bucks.

Dessy Creations

URL: http://www.dessy.com/cat.html
The hook: A bottle of wedding bubbles and the latest catalog.
The line: You have to say where you live and when you're getting married.
The sinker: Half of the bubbles leak all over the package before it gets to you, and the bottle is really, really small.
Freebie season: Limited supply.
Delivery time: Three to four weeks.
What it's worth: Pennies.

Day-Timers

URL: http://www.daytimer.com
The hook: A sample personal planner that includes two month-long planning books, a vinyl wallet, a ballpoint pen, and an address and phone directory. You also get a chance to win a monthly drawing for other Day-Timers products.
The line: Sign the guest book.
The sinker: You have to pay if you want calendar fillers for the other 10 months of the year.
Freebie season: Ongoing.
Delivery time: Two to four weeks.
What it's worth: Not sure how much the sample is worth, but the leatherbound version pushed in the brochures costs between $30 and $35 for a year's worth of planning books. And it comes with a free Diplomat pen.

Tampax

URL: http://troom.com/topdrawer/tamform.html
The hook: Four tampons for the special lady in your life.
The line: Fill out a short survey on your feminine hygiene preferences.
The sinker: They don't ask you what style you want.
Freebie season: Ongoing.
Delivery time: About a month.
What it's worth: Less than $5.

C.C.S.S. Conversion

URL: http://www.copydisks.com/conv.html
The hook: An 18-x-22-inch ASCII conversion chart poster.
The line: Send the company an email with your request.
The sinker: If you have to ask us what ASCII is, you probably won't want this.
Freebie season: Limited supply.
Delivery time: Four to six weeks.
What it's worth: About $5.

Flexx-Rap

URL: http://www.flexx-rap.com
The hook: A sample of the waterproof, hypoallergenic adhesive wrap that "anyone who has hands and works or plays needs." Uh huh.
The line: Send an email with details on how you'll use it. We suggest you be creative.
The sinker: Gotta have hands.
Freebie season: Limited supply.
Delivery time: "A.S.A.P."
What it's worth: Less than $3.

Corbis

URL: http://www.corbis.com/cdroms
The hook: A CD-ROM with demos of six way-cool CD-ROMs.
The line: Send an email, or call in your request (800-246-2065).
The sinker: Most of these demos can already be found on previous *MacAddict* discs.
Freebie season: Ongoing.
Delivery time: About two weeks.
What it's worth: Less than the cost of six individual CD-ROMs.

Trick or Treat?

Junk mail. Those two words are scary enough to separate most people from all the free samples, survey gifts, and drawing prizes they so richly deserve. Why? Because many people are loathe to hand out their name, address (postal or electronic), and phone number to someone they fear might abuse it. Someone who might sell it to a mailing list. Someone who might flood their email box with unwanted solicitations and announcements. Someone who might, God forbid, actually call them on the phone and try to sell them something.

Calm down. Contrary to popular belief, most businesses with a presence on the Internet aren't willing to share your personal information with anyone else. ("Get your own" is the marketing motto when it comes to protecting databases.) And most will not bombard you with email unless you request to hear about future announcements. We've sent away for more than a hundred free samples in researching this article and have received fewer than 10 follow-up emails.

The information you give companies when you fill out their surveys and request forms is used mainly to tell the company three things, none of which involve personally contacting you. Companies want to know if their sites are really worth the subtraction to their bottom line, how their sites can be improved to reach their target audience, and what types of people might make potential customers. Big, billion-dollar companies couldn't care less about individuals, but they would fork over some fine free samples to hear about demographics.

If you're still not convinced that Internet freebies are more treat than trick, take some advice from us.

1. Never answer any question that makes you feel uneasy. If you don't like a question, don't answer it. If the question really disturbs you, send an email to the company with your complaint. If enough people complain about the same offensive question, the company may be pressured into removing it.
2. Don't give out your social security number. This simply is not necessary and should never be asked of you.
3. Beware of scams promising you millions of dollars. These offers are often written in all capital letters to grab your attention, or if you're smart, to warn you away. Subscribe to the free electronic newsletter Internet ScamBusters (http://www2.scambusters.org/scambusters) for more tips on avoiding popular Internet rip-offs.
4. Don't use Windows 95. Whenever a big bust makes the news, the victim of the fraud is almost always a Windows user.
5. When filling out surveys, make sure that if a box is prechecked, it is requesting something you want; otherwise, change the default answer. Companies often answer questions for you, hoping you won't notice so that they can send you further notices and blame you for asking for them. Kind of like the way your older brother used to beat you up with your own fists. Aaah, happy times.

Drawings, Games, and Contests

Surprises and Jewelry

URL: http://members.tripod.com/~SJEWELRYS/link.html
The hook: Win anywhere from 5 to 50 pairs of earrings—the exact number changes each month.
The line: Simply enter the monthly drawing.
The sinker: The site doesn't show you what the earrings look like—probably with good reason.
Freebie season: Ongoing.
Delivery time: Unknown.
What it's worth: $5 a pair.

Dick Nite Spoons

URL: http://www.dicknite.com/freelure.html
The hook: A Dick Nite fishing lure.
The line: You just enter the drawing—10 dozen lucky winners are picked each and every week.
The sinker: Enter as often as you want, but you can win only once.
Freebie season: Weekly drawing is ongoing.
Delivery time: Up to four weeks.
What it's worth: $2.

Pacific Coast

URL: http://www.pacificcoast.com/pcf/contest/contest.htm
The hook: An expensive down comforter or down pillow.
The line: You have to correctly answer questions about Pacific Coast's down when you register before you can enter your name in the monthly drawing. Relax, there are hints.
The sinker: You have to remember to check back at the site to see if you've won.
Freebie season: Monthly drawing is ongoing, but you have to reenter each month.
Delivery time: Three to four weeks.
What it's worth: The comforter, $189; the pillow, $49.

MacintoshOS.com

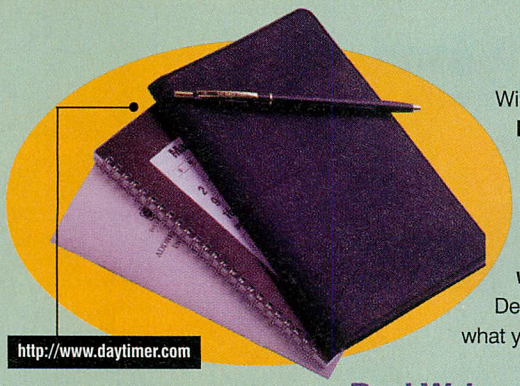
URL: http://www.macintoshos.com/registration/registration.html
The hook: Mac OS T-shirt
The line: Registered members are entered into a weekly drawing for two free T-shirts.
The sinker: Form asks for your hard drive size but not your T-shirt size.
Freebie season: Ongoing.
Delivery time: Unknown.
What it's worth: Less than $5.

Yoyodyne

URL: http://www.yoyo.com/index3.html
The hook: Prizes that range from world cruises to T-shirts.
The line: You have to play (and win) the online games.
The sinker: You'll probably win the T-shirt, if you even win.
Freebie season: New games and prizes are offered all the time.
Delivery time: Unknown.
What it's worth: Ranges from thousands to mere dollars.

Tour Egypt: Official Site of the Ministry of Tourism, Egypt

URL: http://interoz.com/egypt/tourism
The hook: An all-expenses-paid, six-day vacation in Egypt (airfare included).
The line: Each month you get the opportunity to answer five trivia questions about Egypt. For each correct answer you submit, your name is entered in the big drawing for the trip (which is held every six months), as well as in a minor monthly drawing for prizes ranging from T-shirts to vases to pricey gold jewelry.
The sinker: Unless you're an Egyptian native, answering these questions may require a fair amount of research at the site.
Freebie season: Drawings for


http://www.daytimer.com

Windows-only.
Freebie season: Ongoing.
Delivery time: Unknown.
What it's worth: Depends on what you win.

an all-expenses-paid trip are held twice each year.
Delivery time: If you win, you must take the trip within one year of the drawing.
What it's worth: $10,000 for the grand-prize trip; monthly prizes range from $10 to $200 in value.

New Art & Vision

URL: http://www.newartvision.com/tuba.html
The hook: Win a selection of ever-changing prizes that range from Pat Boone's metal CD to a Nintendo 64.
The line: Play a variety of games in which creativity counts.
The sinker: Some prizes are

BookWeb

URL: http://www.bookweb.org/fun/contest/67.html
The hook: A $50 gift certificate to any bookstore listed in the site's bookstore directory.
The line: You must correctly answer the literary question of the month before your name will be tossed into the drawing.
The sinker: Some of the questions are really hard.
Freebie season: Monthly drawings are ongoing.
Delivery time: Unknown.
What it's worth: $50. Duh.

The Jackpot

URL: http://www.initiative.com/info.htm
The hook: $100.
The line: Just keep pulling the lever on a little slot machine until you hit three dollar signs or you go crazy trying.
The sinker: The odds are probably against you.
Freebie season: Ongoing.
Delivery time: Unknown.
What it's worth: It's hard to place a dollar value on sanity, but $100 seems reasonable.

duJour.com

URL: http://www.dujour.com
The hook: A whole slew of prizes, ranging from software to sausage.
The line: You've got to play and win any one of a large selection of games and contests.
The sinker: Requires mental effort to win mostly piddly prizes.
Freebie season: The games and freebies change daily.
Delivery time: Unknown.
What it's worth: Again, it depends on what you win.

Bearly Legal

URL: http://www.bearlylegal.com/contest.html
The hook: A cuddly teddy bear.
The line: Search the site to find the secret word that you'll need before you can submit your entry into the monthly drawing.
The sinker: Some of these teddies could make a young girl blush. You must be at least 18 to play—for good reason.
Freebie season: The monthly drawing is ongoing.
Delivery time: Two to three weeks.
What it's worth: $10.

Power Computing

URL: http://www.powercc.com/index.html
The hook: Chance to win a Power Computing PowerBase 180.
The line: You must register with the company to be included in the drawing.
The sinker: 180MHz is so-o-o 1996. Anybody who's anybody has at least 200MHz this year.
Freebie season: This contest will have ended by the time you read this, but more are on the way, so keep checking this site.
Delivery time: About a week.
What it's worth: About $1,300 at press time.

Born to Beta-test?

Sophisticated Mac aficionados who'd rather sneak a peek at the latest version of Adobe PageMill than troll around the Web looking for complimentary T-shirts and mousepads may want to consider beta testing as a means of procuring the more valuable freebies. If you're good at weeding bugs out of the prerelease versions of software, occasionally the company you're helping will reward you with a free copy of the final product. Take the following quiz to find out if you've got what it takes to be a beta tester.

1. The Mac you're using to test on is:
   a) The only Mac in your life.
   b) An ex that you keep around for kicks.
   c) Your worst enemy's only computer.
2. When your Mac crashes, you:
   a) File an insurance claim and take it to the shop.
   b) Reboot and patiently start again.
   c) Take it apart and put it back together so it runs even better than before.
3. You feel most comfortable:
   a) Talking to your friends.
   b) Talking to your friends about your Mac.
   c) Talking to your Mac.
4. You think a bug is:
   a) A creepy insect you kill with spray.
   b) A computer glitch that you complain about loudly to all who will listen.
   c) A computer glitch that was caused when your Mac tried to address a dereferenced block of memory.
5. You consider yourself an expert at:
   a) Playing games on your Mac.
   b) Creating games on your Mac.
   c) Creating the software used to create games on your Mac.
6. You feel that you deserve a free copy of the final version because:
   a) You once expressed interest in beta-testing the product.
   b) You found a few bugs that you never reported before losing interest in beta-testing the product.
   c) You gave up all other interests to beta-test the product.
7. During crunch time, right before the product's release, you:
   a) Spend the time on a remote island totally cut off from all human contact.
   b) Spend the entire time at your Mac, finishing a term paper for class.
   c) Spend all your time at your Mac tracking down every last bug.
8. Your idea of a detailed progress report is:
   a) A quick phone call.
   b) A picture postcard.
   c) A log of exact spots where bugs can be found in the program's memory.
9. You really want to beta-test so you can:
   a) Impress members of the opposite sex in Silicon Valley pickup joints.
   b) Get a preview of upcoming software so you can brag to everyone you know that you're using a newer version of the program than they are.
   c) Make your favorite software the best on the market by tracking down bugs and suggesting useful features.
10. Do you own a copy of Norton Disk Doctor?
    a) Who?

Magazines and Newspapers

Imagine Publishing

URL: http://www.freeissues.com
The hook: One sample issue of any or all of Imagine Publishing's killer magazines, including *MacAddict*, *boot*, *Next Generation*, *PC Gamer*, *The Net*, and *Ultra Game Players*.
The line: Submit your request online, or call 800-706-9500.
The sinker: You already subscribe to *MacAddict*.
Freebie season: Ongoing.
Delivery time: Six to eight weeks.
What it's worth: Depends on the magazine you're checking out.

Free Stuff Newsletter

URL: http://www.ppi-free.com/prime4.htm
The hook: A sample issue of this bimonthly newsletter that's all about scoring free stuff.
The line: Drop a line through the mail (1954 First St., Dept. FCNV96, P.O. Box 663, Highland Park, IL 60035) with a $2 shipping and handling fee.
The sinker: It's not a weekly.
Freebie season: It's a one-time-only offer.
Delivery time: Six to eight weeks.
What it's worth: About $2.

WebWeek

URL: http://www.webweek.com/subs/ww-qualform.html
The hook: A one-year subscription to the weekly Web news source.
The line: You have to answer questions *A* through *P* in a survey that the company uses to determine if you qualify for the free subscription.
The sinker: Available only to U.S. and Canadian residents.
Freebie season: Ongoing.
Delivery time: Unknown.
What it's worth: About $165.

The Frugal Gazette

URL: http://www.frugalgazette.com/subscribe.htm
The hook: A sample issue of the monthly eight-page newsletter "dedicated to providing information and encouragement for those in pursuit of frugality."
The line: Send a business-size envelope with two first-class stamps (P.O. Box 3395, Newtown, CT 06470) for the latest issue.
The sinker: It doesn't accept requests via email (like *MacAddict* does).
Freebie season: Ongoing.
Delivery time: Four to six weeks.
What it's worth: $1.

Adobe Magazine

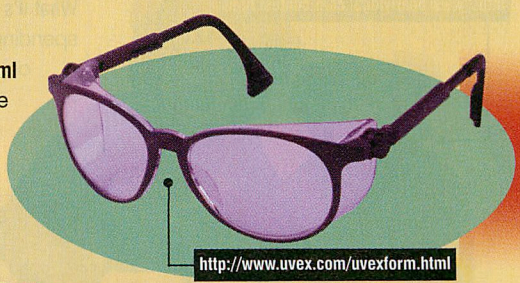
URL: http://www.adobe.com/publications/adobemag.html
The hook: A free subscription to Adobe's quarterly magazine.
The line: Subscribe online or by phone at 800-833-6687.
The sinker: If you don't live in the United States or Canada, it could cost you $60 (U.S.).
Freebie season: Ongoing.
Delivery time: Published in January, April, July, and September, you receive the next available issue following your request.
What it's worth: Unknown. It's not sold in the United States.

Paper

URL: http://www.papermag.com/magazine/magazine.html
The hook: One issue of the monthly cooler-than-you culture magazine.
The line: Register your name and mailing address when you visit the site.
The sinker: You have to pay to continue the subscription.
Freebie season: Ongoing.
Delivery time: Unknown.
What it's worth: About $2.

MIT's Technology Review

URL: http://anxiety-closet.mit.edu:8001/activities/techreview/freeissue.html
The hook: One issue of MIT's cutting-edge science review.
The line: Send an email with your request.
The sinker: It'll cost you a stamp to request an end to the seven additional nonfree samples heading your way.
Freebie season: Ongoing.
Delivery time: Unknown.
What it's worth: About $2.75.



b) I think so.
c) Of course.

Give yourself one point for every time you chose answer *a*, two points for every *b*, and three points for each *c* response. Add up your points and check your score to see if you were born to beta-test.

10 to 15 points: Do you even own a Mac? Do the Mac industry a favor and stick to sending away for stickers and phone cards to get your freebie fix.

16 to 25 points: You've got the desire but not the drive, and we're not talking Zip, baby. To beta-test for the big boys, you have to know almost as much about their product as they do, and you must be willing to reinstall, test, and report on every buggy version of it.

But there is a sneak peek option for you curious slackers and beta-testing novices. Many companies, especially Internet software developers, post public beta versions of their products on the Web. If all you want is a preview of what's to come, you can download the program and play with it without any further obligations. Basically, these companies put their products out early because it's an easy way to get free publicity and perhaps fix a few bugs on the side. The final, full-featured, bug-free version, however, will usually cost you.

Unless you're serious about helping. If you bang away at the company's product, root out persistent bugs, file regular reports, and build a trustworthy relationship with the people there, they may give you the final version and ask you back. Check the *MacAddict* Web site for an up-to-date list of all the public beta-testing offers available on the Web.

26 to 30 points: Where have you been?

Netscape has been looking for you. So has Adobe, Macromedia, Claris, and Corel, for that matter. Although most of the big, powerhouse software companies actually pay people to spend days in their labs testing their beta releases, there are still opportunities for crack bug busters like you. If you aren't already an established expert, author, publisher, developer, or visionary in the field of software you want to beta-test, probably the best way to get started is to rip apart the public version of whatever software your target company is currently testing on the Web. Or start beta-testing for smaller companies that can't afford the big labs or private testers and work your way up—a good reputation goes a long way in such a small community as the software industry. Call or send an email to the companies that interest you to find out how you can get involved.

Freeware

Social Engineering
URL: http://www.slaphappy.com
The hook: Quid Pro Quo, a high-performance Web server that supports WebStar plug-ins and is even easier to use than its pricey competitor.
The line: Just download it.
The sinker: StarNine Quarterdeck's WebStar offers more robust security features.
Freebie season: Ongoing.
What it's worth: Up to $800, if it saves you from buying WebStar.

Stairways Shareware
URL: http://www.share.com/peterlewis/ic
The hook: Internet Config 1.3. This centralized storage place lets you pack away all of your Internet preferences, such as your email address, signature, user group password, and default home page for Web browsers in one convenient location. Other applications can read these preferences, so you don't have to keep writing them.
The line: You may already have it, depending on which Internet software you're using. If not, just download it.
The sinker: You'll start cursing those few stubborn holdouts, including Netscape Navigator and Qualcomm's Eudora, that don't support it.
Freebie season: Ongoing.
What it's worth: Depends on how much you value your time.

Apple
URL: http://cybertech.apple.com/AIMS.html
The hook: Apple Internet Mail Server. It lets you create your own mail server, a crucial element for starting your own Mac network.
The line: You just download it.
The sinker: None that we know of.
Freebie season: Ongoing.
What it's worth: It saves you from spending thousands of dollars on an ugly UNIX server.

UserLand Software
URL: http://www.scripting.com/frontier
The hook: Frontier 4.2. This powerful scripting environment comes with a built-in database as well as Web authoring and publishing features.
The line: You just download it.
The sinker: It's easy to download but not so easy to learn.
Freebie season: Ongoing.
What it's worth: Used to be a couple hundred bucks, now it's free.

Claris
URL: http://192.35.50.110/forms/emailer-offer/us.html
The hook: Claris Emailer 1.1. A fully functional, though slightly out-of-date, version of Emailer.
The line: You can download the software after filling out a short online form and accepting the license agreement.
The sinker: There's no tech support for the free version.
Freebie season: Ongoing.
What it's worth: Less than $50.

Qualcomm
URL: http://www.eudora.com/light.html
The hook: Eudora Light. This free email client offers almost as many features as Eudora Pro.
The line: Just download it.
The sinker: The darn thing doesn't support Internet Config. Curses.
Freebie season: Ongoing.
What it's worth: Less than $50.

CE Software
URL: http://www.cesoft.com/quickmail/qmexpress
The hook: QuickMail Express. Basically a crippled version of the email client QuickMail Pro, QuickMail Express offers easy-to-use mail management features, address books, and mail folders.
The line: Download it and start sending email.
The sinker: The program doesn't offer mail filters, nor does it support styled text, spell checking, or custom forms the way QuickMail Pro does. You'll also face limits on addresses and mail folders.
Freebie season: Ongoing.
What it's worth: About $30.

Apple
URL: http://www.cyberdog.apple.com
The hook: Cyberdog. This complete Internet toolkit comes with built-in clients for email, Web browsing, reading newsgroups, and downloading from FTP sites. It also enables any OpenDoc application to include Internet content.
The line: You have to download Apple's OpenDoc (also free) before downloading Cyberdog—check the hardware and software requirements to make sure your Mac is up to snuff and can support both applications before you spend a lot of time downloading them.
The sinker: This new way of computing carries a learning curve, requiring you to OpenDoc your mind.
Freebie season: It'll be around as long as Apple supports it.
What it's worth: About $50.

Fonts

Vintage Type
URL: http://www.vintagetype.com
The hook: Two fonts.
The line: Download and they're all yours.
The sinker: The selection of free fonts is limited but of higher quality than most freebies you'll find on the Web.
Freebie season: Ongoing.
What it's worth: $15.

Surface
URL: http://www.surrface.com/typehtml/index2.html
The hook: Between 5 and 10 hip free fonts, though the foundry may add more.
The line: Download and they're all yours.
The sinker: A couple of the fonts are for Windows users only.
Freebie season: Ongoing.
What it's worth: Unknown.

The Chank Store
URL: http://www.chank.com
The hook: A new font every month as well as access to an archive of offbeat fonts.
The line: They're available immediately for downloading.
The sinker: These low-grade fonts are more fun to read about than use. This site is not recommended for ages 18 or under due to explicit language and some adult content.
Freebie season: Ongoing.
What it's worth: A good laugh.

The Font Fairy
URL: http://home.earthlink.net/~ewhall/fontfairy/freefonts.html
The hook: The ultimate collection of links to sites offering free fonts for the Macintosh.
The line: You just follow the links.
The sinker: There is no sinker—this site rocks.
Freebie season: Ongoing.
What it's worth: Unknown.

Fontaholics Anonymous
URL: http://home1.gte.net/tiaralyn/Fontaholics_Anonymous.html
The hook: Lots of links to fonts on the Internet.
The line: Follow the links.
The sinker: Not all the font sites offer Mac fonts, nor are all the fonts offered on these sites free.
Freebie season: Ongoing.
What it's worth: Unknown.

Money, Money, Money

Voice of the Internet

URL: http://www.kcweb.com/vote/s_wel.htm

The hook: Monthly cash giveaway just for joining. At the end of each poll period, your name also goes into a drawing for $5 payments if you've actually participated in the surveys that month.

The line: Fill out a relatively short qualification survey and wait for a telephone call.

The sinker: If you've done the work, you should be compensated, not just win a chance to be compensated.

Freebie season: Ongoing

Delivery time: Unknown.

What it's worth: Not much.

Greenfield Online Research Center

URL: http://www.greenfieldonline.com/survey.htm

The hook: Chance for cash or prizes for participating in polls, surveys, and focus groups. New members enter monthly drawings for cash and computer or home entertainment products.

The line: Give your basic background information and wait to be matched up with a survey.

The sinker: If you participate in one of the projects, you're still not guaranteed compensation.

Freebie season: Ongoing.

Delivery time: Prizes are sent two weeks after the project's close.

What it's worth: Some of the cash prizes range from $50 to $100.

American Consumer Opinion

URL: http://acop.com/info.htm

The hook: Compensation—in the form of money, postage, or prizes—for sharing your opinions.

The line: Fill out a short personality profile and wait to be selected. You'll be contacted by phone, email, or snail mail.

The sinker: The group already has 50,000 members.

Freebie season: Ongoing.

Delivery time: Unknown.

What it's worth: $25 for the monthly drawing and from $1.50 to $5 per completed survey.

Wired Insights

URL: http://www.triadonline.com/wiredinsights/join.html

The hook: "Free gift" worth $15 or more for every five surveys you complete.

The line: Fill out a personality profile and wait for a call.

The sinker: We'd rather see cash.

Freebie season: Ongoing.

Delivery time: Unknown.

What it's worth: A gift worth at least $15.

Questions.net

URL: http://www.questions.net

The hook: A variety of prizes, plus the chance to win $1,000. (You fill out surveys to collect points redeemable for prizes; everyone who answers questions during a month is entered into that month's drawing for the cash.)

The line: Complete an informational form and you'll receive an email when you're matched to a compatible survey.

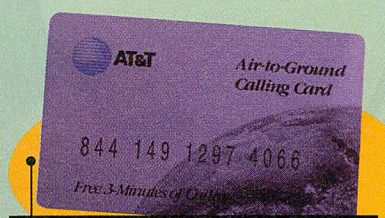
The sinker: You have to remember yet another name and password.

Freebie season: Ongoing.

Delivery time: Unknown.

What it's worth: Depending on when you want to cash in your points, you can earn prizes ranging from a T-shirt to a cruise.

Associate Editor Nikki Echler believes that there *is* such a thing as a free lunch, and damn, is it good.



http://www.attws.com/nohost/aviation/av_frm.html

Fend for Yourself

Like a bloodhound on constant patrol, a good freebie finder can sniff out a product sample giveaway long before all the goods are gone—quite a feat in the here-today, gone-tomorrow World Wide Web of free stuff. Although we've given you leads to freebies, chances are good that many will be snatched up by savvy Web scavengers before this issue reaches you. Don't despair; free offerings find their way to the Web every day, and the following five tips will have you hot on the trail of new deals in no time.

Stay regular.

Bookmark your favorite free-stuff compilation sites and check them on a regular basis. Visiting the following five sites will keep you on top of all the best offers out there.

The Weekly Freebie Compilation
http://www.bdominia.com/free

Updated weekly, the editor's picks help you weed out the worst and select the best.

Free Lance
http://www.kcweb.com/fl/freelance.htm

Updated daily and well organized, the freebie links are divided into 10 subjects, such as product samples, software, contests, and catalogs.

Play Time
http://www.playhere.com/giveaway.htm

Updates are whenever, and not exactly often. But this site is worth visiting because it not only offers links to a wide selection of games and contests across the Web, but also gives you the answers.

Scavenger's Quest
http://www.aracnet.com/~crow/sq

Updated daily. This site suffers minimal organization, but it links you to some of the best free stuff available.

alt.consumers.free-stuff-tng
http://www.icv.net/cgi-bin/free.cgi?top

Updated daily. Witty product summaries let you know what kind of free stuff you're signing up for before you follow the link halfway around the Internet. Broken down into 24 categories, this site offers tons of links.

Check for freshness.

Before you spend a lot of time following links to freebies, check the date on your links page to see when it was last updated. Sites that haven't been updated in a month or more probably won't have much to offer.

Talk shop.

Chat up your frugal co-browsers in free-stuff chat groups or subscribe to a freebie mailing list. Pointers to more free stuff can be found at many of the freebie compilation sites.

Target the big spenders.

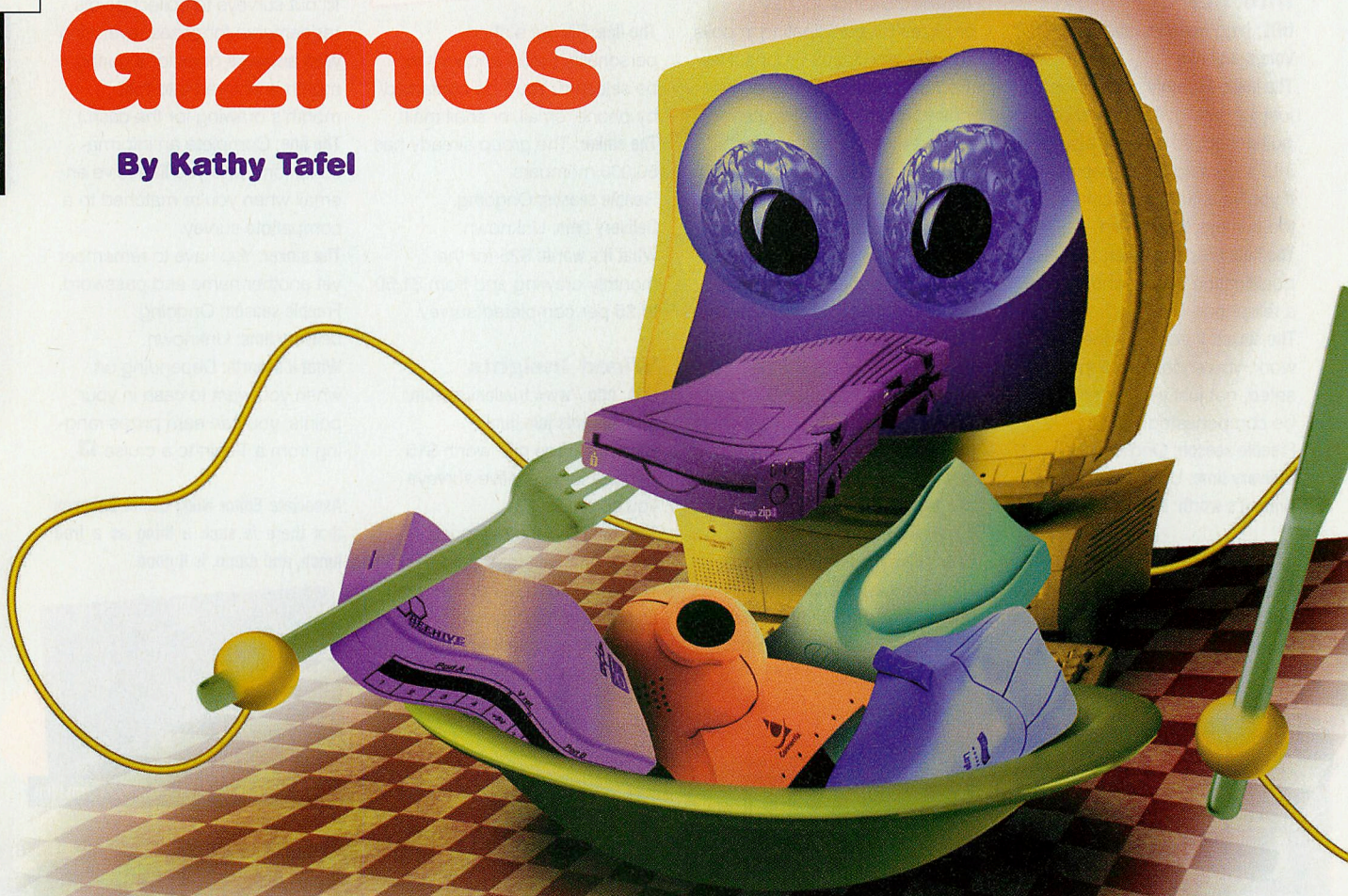
Large companies such as Coca-Cola, AT&T, and Random House are always giving things away because it's a fairly cheap way for them to attract people to their Web sites. The same goes for most Mac hardware and software companies such as Apple, Power Computing, Humongous Entertainment, Berkeley Systems, Intuit, and more who offer contest giveaways, downloadable demos, and in some cases, full-on freeware.

Take notes.

Keep track of the samples you request and the drawings and contests you enter. Many companies ask you to come back and check their site to find out if you've won—a sneaky way of assuring your return visit. Still, you'd hate to miss out on that expensive goose down comforter just because you forgot you entered.

25 Mouth-watering Gizmos

By Kathy Tafel



Stuff your Mac's face with hardware even a mother could love

Illustration by Tom White
Photography by Aaron Lauer

Go ahead, turn your Mac around. See all those empty plugs? They cry out to be filled. Just listen to them, those plaintive voices pleading, "Feed me, feed me." Faced with this plea, you know you'll break down and satisfy your Mac's desires. Whether you're an audiophile, hard-core gamer, artist, or gadget freak, there's a box out there with your Mac's name on it.

We know that all you need is the slightest bit of encouragement. So we picked the 25 choicest morsels from this year's crop of peripherals for your Mac's next meal. (We weeded out all PowerBook add-ons for a future article.) Some of these goodies provide basic nourishment, and others are exotic delicacies. All will appease your Mac (oh yeah, and you, too) for at least a few months.

Drool or Tool?

With each of these devices, you'll want it because it's either too cool for words or so incredibly practical. To help you distinguish the two, we stamped each product with a drool icon or a tool icon. The lucky products that appeal to both pragmatism and lust received both icons.

Sound

Although the *A* is often ignored in AV, your audio experience on your Mac can be greatly enhanced very simply. Your first duty is to get speakers. Be sure they're shielded for computer use, because speakers contain magnets, which will wipe out magnetic media and distort monitor images. A subwoofer fills out the lower end (the bass) of the sound spectrum and makes your belly rumble during scary games.

MU10

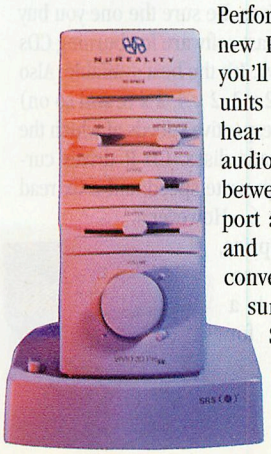
Yamaha
800-4-YAMAHA,
http://www.yamaha.com
$249 (SRP)

So you showed up to practice with the band, hoping to break into the lucrative college band scene. But you forgot that your keyboardist and drummer had to cram for an exam. Not to worry. You can practice without them to the tune of a band in a box with the MU10, an external wavetable sound upgrade. This handy little box plugs into your serial port, giving you a complete range of instruments with which to play back MIDI sound. If you have other MIDI devices, you can plug them into the box, too. Keep an eye out this fall for a Yamaha keyboard that interfaces directly with your serial port, eliminating the need for a MIDI converter.

Vivid3D PROex

NuReality
800-501-8086,
http://www.nureality.com
$110 (SRP)

Surround-sound systems make an audio signal sound as though the audio is located in a 3D space rather than coming from just two speakers. If you aren't lucky enough to have a Performa 6400 (or the new Power Mac 6500), you'll need one of these units from NuReality to hear truly pleasing audio. Just plug it in between your audio-out port and your speakers, and it *automagically* converts the signal to surround sound. Sound-studio office? You bet.



Connections

Ah, the Internet, everyone's darling. To access it, you need a box to chirp away at other boxes in far-off lands. Modems zip along at up to 33.6Kbps, and ISDN goes way faster. Most modems come with at least an America Online or CompuServe sign-on kit, and some even have special deals with Internet service providers.

Teleport Speakerphone Edition

Global Village
800-732-4821,
http://www.globalvillage.com
$250 (street)

We won't tease you for thinking that modems are only for faxing and data transfer. That's what we thought until we saw Global Village's Teleport Speakerphone. That's right, you can use this 33.6Kbps modem as a regular hands-free phone, even when your Mac is turned off. You can also use it as an answering machine. This speakerphone gets a thumbs-up as well for its elegant design.

Planet ISDN Geoport Adapter

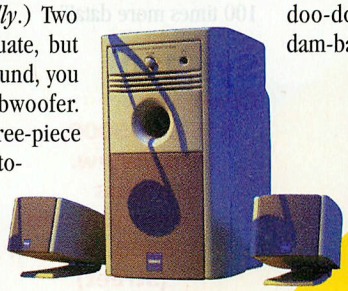
Sagem
408-446-8690,
http://www.satusa.com
$300 (street)

If 33.6Kbps just isn't fast enough to satisfy your Internet needs, the next step up is ISDN. Sagem's Geoport Adapter plugs right into your modem port and provides 128Kbps surfing, or 56Kbps surfing and a regular phone connection. For an extra $59, the good folks at Sagem will check on ISDN availability in your area and order it for you; additionally, they'll test the line to make sure that it's fully functioning, and they offer a 30-day warranty. (You still have to pay the phone company's installation fee.) For a home office, you may want to step up to Farallon Communications' Netopia ISDN Modem, which provides an extra jack for a fax machine but costs $100 more.

System 25

Yamaha
800-4 YAMAHA,
http://www.yamaha.com
$129 (SRP)

To hear all these fancy audio add-ons at their best, you need to stop listening to audio out of that dinky speaker on the front of your Mac. (I mean, *really*.) Two speakers are adequate, but to round out the sound, you really need a subwoofer. The System 25 three-piece speaker system automatically adjusts the sound to correct for overshoot or ringing. (If you have a Performa 6400 or Power Mac 6500 with a built-in subwoofer, you need only a two-speaker system.)



FM Radio

La Cie
503-520-9000,
http://www.lacie.com
$58 (street)

If you work at a modern company, chances are you work in modern workspace (read: cubicle) and have no privacy to hear yourself think. Headphones and music are a necessity to keep your productivity level at its highest. A boom box might look suspiciously like you're having too much fun. But a computer add-on? No one will suspect you are blissing out to the trancy tunes on KFJC with the La Cie FM Radio plugged into your Mac.

Kathy says, "Doo-doo-di-doo-doo, a bap-bap-bad-dam-bam."

Printers

I don't care if this is the digital age, if you don't have a printer, you're toast. No matter what you do with your Mac, there's going to be something you're going to want to print out on good old-fashioned paper. Just accept it—if you own a Mac, you need a printer.

Stylus Color 600/800

Epson
800-GO-EPSON,
http://www.epson.com
$300/$450 (both street)

For three Ben Franklins, you can jump up to a color inkjet printer. These two particular beauties win in the "An inkjet printer did *that*? And it costs *what*?" category. Both are reasonably priced and print nearly photographic images at a resolution of 1,440 x 720 dpi. An extra $150 for the 800 gives you faster printing and optional Ethernet connectivity and PostScript Level 2 (useful for small offices). On high-quality paper, the output almost looks like it came from a $6,000-plus color laser printer.

Storage

Ten years ago, you wouldn't have dreamed of throwing 650MB of data storage though the air like a Frisbee. (In fact, you probably couldn't even have lifted 650MB worth of storage.)

Sys.230

Buyer's Guide: Hard Drives

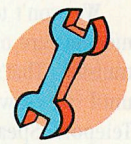
Once you've filled up the internal drive that came with your Mac, you have two choices: Start tossing old stuff or buy more space. External hard drives are pretty much all the same these days. Still, there are general guidelines you should follow when buying a new drive.

- Figure out how much you're willing to pay, and how much space you need, then find the happy medium between the two. Right now, the best bargain is a 1.2GB drive for roughly $400.
- Find out whether or not the drive includes a SCSI cable, and if so, whether or not you can specify whether it's a 25-to-50 pin cable or a 50-to-50 pin cable. (Hint: If you don't have anything currently connected to your Mac's SCSI port, you want the 25-to-50 pin cable.)
- Be sure to check the company's warranty and return policies.

We still wouldn't recommend tossing around a Jaz cartridge, but CD-ROMs make great weapons for tagging that annoying officemate.

Zip Drive

Iomega
888-4-IOMEGA,
http://www.iomega.com
$199, $20 per cartridge (street)



The Zip drive is a perfect addition to anyone's home studio. The 100MB cartridges can hold several large image, video, or audio files. Just about any service bureau (and any friend) will have them. Plus, the Zip drive just works—you don't have to fiddle with SCSI Probe or another utility to make the volumes mount on your desktop. Iomega is the original creator of the Zip drive, but several other companies also now sell the Zip drive under their own labels.

Kathy says, "It looks like a floppy but holds 100 times more data!"

Sys.230

Olympus
516-844-5000,
http://www.olympusamerica.com
$360, $10 per cartridge (street)

The Sys.230 is an optical drive that makes for a great backup mechanism, and its media cartridges are cheaper and hold more than do Zip cartridges. Additionally, the cartridges are way durable—in 10 years, you're not going to see much data loss or error. They're not magnetic, so you can't accidentally erase them. On the downside, they're about as fast as a really slow hard drive, so don't expect to edit streams of audio or video on the fly with one.

Dave says, "Cheap media, reliable storage, and a nifty case—what else could you want?"

Jaz Drive

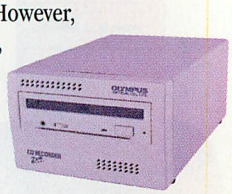
Iomega
888-4-IOMEGA,
http://www.iomega.com
$499, $125 per cartridge (street)

Sometimes the Zip's 100MB just isn't enough, especially if you work on large projects—video or CD-ROM production, for example. Iomega's Jaz drive with its 1GB cartridges, however, is basically a removable hard drive. As such, it's more delicate than optical storage but much, uh, zippier.

CD-R2x6

Olympus
516-844-5000,
http://www.olympusamerica.com
$649, $10 extra media (street)

If you require the ultimate in durability and want to share data with the world, your best bet is a recordable CD drive. In addition to computer data, you can also use a CD-Recordable (CD-R) drive to burn audio CDs. You can name the tracks, and when they are back in a Mac, the track names automatically show up in Apple's Audio CD player. The only drawback is that once the CD is burned, it's burned for good. Many vendors make CD-R drives. Be sure the one you buy includes Astarte's Toast software for burning CDs (or buy it separately): It's the best available. Also note the numbers (2 x 2, 2 x 4, 2 x 6, and so on) which indicate the respective speeds at which the drive writes and reads discs. CD-R drives currently top out at a 4x write speed and a 6x read speed—thus, 4 x 6. However, they also top out in price, at around $800, so Olympus' CD-R2x6 is a reasonable model for home use.



Input Devices

One-button mice are a thing of the past. You'll want to use a different button for the contextual menus in Tempo (Mac OS 8). Get a jump on your fellow Mac enthusiasts with something other than the mouse included with your Mac.

Orbit Trackball

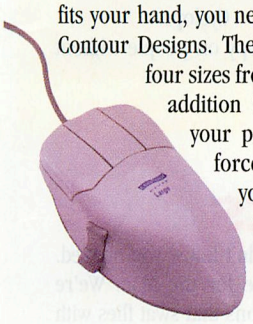
Kensington
800-535-4242,
http://www.kensington.com
$70 (street)

I've never been able to figure out trackballs. Maybe it's the dyslexic click-with-the-thumb reversal of mousing that has me stymied, or maybe it has always been bad design. The Kensington Orbit has me actually considering switching to a trackball. The plastic base follows the curve of your hand, and the ball rests just under your fingertips. The two buttons are positioned just under your thumb and ring finger for easy clicking.

Cheryl says, "It should have been called a mouseball—it's the only trackball that's comfortable for hard-core mousers."

Contour Mouse

Contour Designs
603-893-4556,
http://www.contourdes.com
$59.95 (SRP)



One size does not fit all. To get a mouse that fits your hand, you need to scoop up one from Contour Designs. The company offers mice in four sizes from extra small to large. In addition to fitting snugly beneath your palm, the Contour Mouse forces you to move it with your whole arm, not just your wrist. Your triceps get a workout while your carpal tunnel is less stressed. There even are models for lefties.

GamePad

CH Products
800-624-5804,
http://www.chproducts.com
$24 (street)

As more console-type games, such as VR Soccer, come to the Mac, you need more than just a mouse to win. You need more control. CH Products' GamePad is elegant and ergonomic, providing six buttons and a D-pad for moving left, right, up, or down.

Kathy says, "It kind of looks like a Pippin hoojit, but it controls better games!"

F-16 FighterStick/ Pro Throttle

CH Products
800-624-5804,
http://www.chproducts.com
$94/$100 (both street)

Any flight-sim enthusiast knows that you won't enjoy your experience if you have to memorize keyboard commands. The F-16 FighterStick has a bazillion buttons offering a highly customizable interface. Add the Pro Throttle and you won't ever need to touch the keyboard again.

Dave says, "The F-16 FighterStick and Pro Throttle combo offer power and control. Nothing Freudian here."

ArtPad II 4x5

Wacom
800-922-9348,
http://www.wacom.com
$140 (street)

Tap the hidden artist within. Yes, you have one, but it's been lurking about, not exerting itself because it can't draw with a mouse. Coax it out of its shell with an ArtPad. Wacom's starter tablet is pressure sensitive and even has an "eraser" at the end of the cordless drawing pen. An extra $25 buys you a copy of Fractal Design Dabbler. The ArtPad is just the beginning. Wacom tablets reach dimensions of 18 x 25 inches (for a paltry $2,200). When picking the size you want, remember that the dimensions are the active area and that the actual tablet is bigger—the 4 x 5 measures 6.9 x 7.2 inches.

DinoKidz Keyboard and Mouse

TECHcessories
800-480-TECH,
http://www.techcessories.com
$95 (SRP)

What kid of any age could resist this bright keyboard? Keys of different colors help kids remember which fingers should reach for the letters while touch-typing, and the click-clacking is an additional clue that a key was pressed. Combined with the two-button mouse and a dino-claw mousepad, this is one terrific package.

Nikki says, "It's the hit of the office. Everyone who sees it loves it, and so do I."

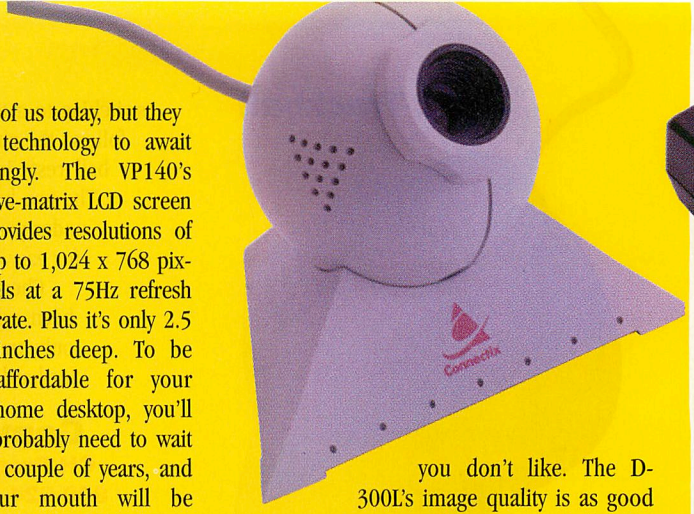
Buyer's Guide: Scanners

It used to be that scanners were expensive and tough to use. Now, however, flatbed scanners are affordable (as low as $300), and they come with software that makes scanning a breeze. Here's what you need to know when buying one.

- Be sure that the printer has a true, or optical, resolution of 300 x 600 dpi. Scanners generally boast two resolutions: an optical resolution, which is what the hardware can really do, and an interpolated resolution, which is the resolution that you'll get thanks to some software tricks. Results are better if you can stay within the optical resolution.
- A 24-bit color scanner is fine for most work. Pros may want to spring for a 32-bit color scanner.
- Look for good software. Good scanning software should let you rotate and resize a scanned image, show you a preview, and be Twain-compliant, which means it can work directly from within most applications.

VP140 ViewPanel LCD

for most of us today, but they are a technology to await longingly. The VP140's active-matrix LCD screen provides resolutions of up to 1,024 x 768 pixels at a 75Hz refresh rate. Plus it's only 2.5 inches deep. To be affordable for your home desktop, you'll probably need to wait a couple of years, and your mouth will be watering the whole time.



Vision

No one could ever accuse the Mac market of ignoring the *V* in AV. From monitors to scanners to digital still and video cameras, there are plenty of visual toys for you and your Mac to play with—so dig in.

VP140 ViewPanel LCD

ViewSonic
800-888-8583,
http://www.viewsonic.com
$2,599 (SRP)

We really like 17-inch monitors with built-in speakers, but they're *huge* and *heavy*. ViewSonic's flat-panel monitors are too pricey to be practical you don't like. The D-300L's image quality is as good as it gets from a sub-$1,000 camera. Road trip!

D-300L Digital Camera

Olympus
800-352-7669,
516-844-5000,
http://www.olympus.com
$879 (street)

Olympus, the maker of fine cameras, has turned its attention to digital imaging with great results. The D-300L looks and feels like a pocket camera, but it's so much more. It can capture 30 high-resolution or 120 standard-resolution images at up to 1,024 x 768. The D-300L also has a macro mode (for those close-ups), an auto-focus lens, a built-in flash, and both an optical viewfinder and built-in LCD so you can see your pictures right after you take them. You can even view them in thumbnail mode and delete the ones

QuickCam/Color QuickCam

Connectix
800-950-5880,
http://www.connectix.com
$228/$90 (both street)

Whether you opt for bright colors or the more affordable black-and-white version, a QuickCam perched on a monitor is a must-have for any Mac. Use this vital piece of equipment as a WebCam (everybody in the world really *does* want to know what you're doing at all times of the day and night) or for videoconferencing or for making your own animated shorts. Plus, it makes your Mac look like it's a Cyclops.

Nikki says, "Use it to spy on people without them knowing."

Buyer's Guide: Monitors

In the market for a new monitor? Here's what you need to know.

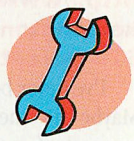
- Absolutely get a 17-inch or larger monitor—it's not worth the few bucks you'll save to get anything smaller.
- Be sure that your monitor can switch resolutions and that it supports the resolution you require.
- The smaller the dot pitch, the better, and it should be no more than 0.29 mm. Smaller dot pitches equal sharper focus.
- Onboard speakers are a must for desktops where space is at a premium. Be forewarned, however, that the speakers built into monitors often don't sound as good as stand-alone speakers.
- Be sure that your monitor has controls to calibrate the screen geometry. Eventually, your monitor's image will get out of whack and you're going to want to tweak it yourself.
- Always make sure that you can send the monitor back if you have a problem with it.

Gadgets

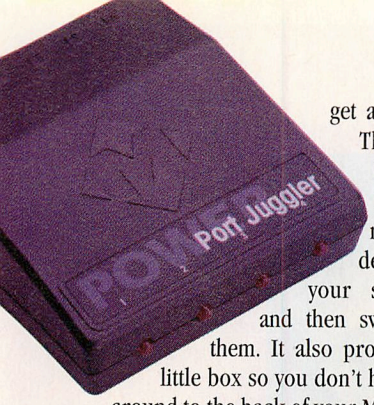
Gadgets are things you didn't know you needed. There are plenty available for the Mac. We're particularly fond of solutions that swat flies with sledgehammers and those that would make Rube Goldberg scratch his head.

PortJuggler/Power PortJuggler

Momentum
808-947-0055
$95/$125 (both street)



With all the extra serial devices that you now want to plug into your Mac, you'll be doing the serial-port dance if you don't



get a PortJuggler. This handy little device lets you connect several devices to your serial ports and then switch among them. It also provides a neat little box so you don't have to reach around to the back of your Mac to plug in something new. One caveat: Momentum advises against plugging a modem into the PortJuggler and instead recommends that you use the modem port. If that was a device you intended to juggle, you may not need the PortJuggler. (If you have a PowerPC-based Mac, you need the Power PortJuggler.)

CM11A/Xtension bundle

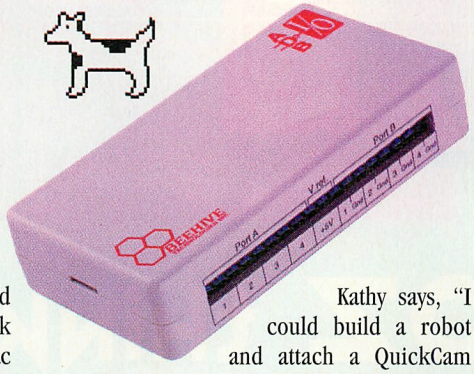
Developed by X-10 Powerhouse/ Sand Hill Engineering; bundle available from Advanced Services
800-263-8608, http://www.asihome.com
$139, including Mac serial cable (street)

Bring out that old Mac Plus. Or, rather, hook up a CM11A to your Mac Plus in the basement and monitor your X-10 devices from your color monitor in the living room, with Sand Hill's Xtension software. The CM11A is an upgrade to the CP290 (see "Cravings," Jan/97, p35) and provides two-way communication. With the old interface, you had to control devices centrally. With the CM11A, you can create event-based macros, such as, "If I open the garage door, turn on the lights between the garage and the kitchen, and tell the stereo to play CD #1." Yeah, I'm lazy.

ADB I/O

Beehive Technologies
818-304-0664, http://www.bzzzzzz.com
$199 (SRP)

This is one of the coolest gadgets ever made. The ADB I/O doesn't do anything itself but, rather, controls devices attached to it. The simplest thing to do is set up weather sensors. With an X-10 device also connected to your Mac, you could track humidity and turn on sprinklers as needed.



Kathy says, "I could build a robot and attach a QuickCam to it and plug it into a Mac and send it crawling all over the room from another Mac at home and…."

SmartSocket

Kensington
800-535-4242, http://www.kensington.com
$20 to $50 (street), depending on model

The SmartSocket solves a couple of nagging problems that have vexed Mac addicts for years. You've collected all kinds of gadgets and a) you can't fit all the AC adapters into your power strip, and b) you can't tell your cords apart. The SmartSocket Adapter model sports six plugs with space to plug in multiple adapter cords. Both the Adapter and Strip models feature color coding, so you'll never have to turn your power strip into a puppet again.

Buyer's Guide: Printers

If you dismissed the idea of buying a printer a few years ago because they were too expensive, then it's time to look again. A 600-dpi inkjet printer costs as little as $150 these days. Here's what you need to know before putting down those three bills with Grant's face on them.

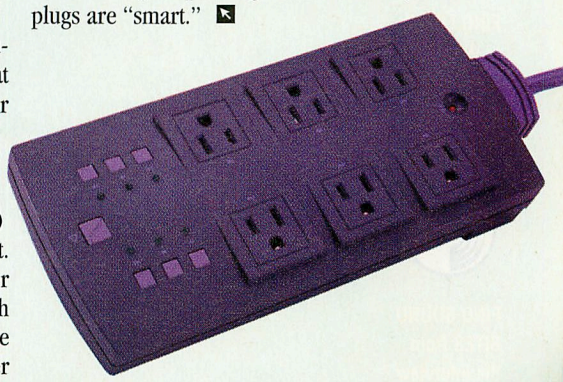
- The current standard is 600 dpi. You can get even higher-resolution printers, but unless you are a graphics professional, you probably don't need the extra resolution.
- Check on the price of replacement ink cartridges and how easy it is to replace them.
- Be sure to find out if Ethernet is built in or optional. Ethernet is a faster networking standard than AppleTalk and is essential for group workspaces.
- If possible, look at print samples from the machine you are considering.

Last, but not least, you can protect your modem and computer from surges and spikes caused by lightning or downed power lines by plugging the line into the SmartSocket.

PowerKey Pro 600

Sophisticated Circuits
800-827-4669, http://www.sophisticated.com
$200 (street)

A Mac plugged into a PowerKey Pro is a Mac that will stay on forever. With a little help, of course. Plug the PowerKey into a phone line and you can reboot a downed Mac from anywhere. Models vary depending on how many plugs are "smart."



Associate Editor Kathy Tafel hopes *MacAddict*'s publisher, Patricia, blithely initials her $9,320 expense report, mistaking it for $93.20. You betcha.

What WOZ thinks

about what's going down in the big house

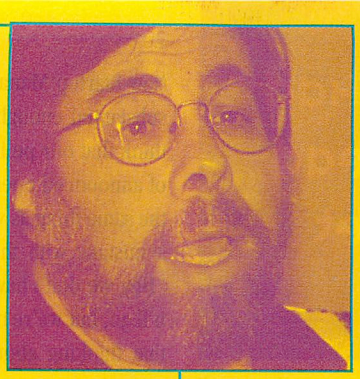
by cheryl england

Back in January, Apple co-founder Steve Wozniak returned to the company as a special advisor to CEO Gil Amelio. But Wozniak says that he never actually left Apple—he has always been an employee, even though he hasn't had an official spot in Apple's org chart, an office in Cupertino, or a big paycheck for years. For Woz, it has been enough just to maintain a connection with Apple. • Woz is still the engineer/prankster of legend. His windowless office is filled (neatly) with Macs, gadgets, and white boards. In fact, he started a company called Unuson in 1987 simply as a hangout for studying Macs. Five years later, Woz began teaching a few kids about Macs. The hobby quickly grew into a 200-hour-per-year commitment to teaching fifth graders. • Now, Woz has a chance again to help people—quite a lot of people—in his advisory role. What is he telling Amelio? Education and product quality top his list of concerns.

FIND LINKS to Wozniak's home page on our Web site.

FIND SOUND BITES from the interview on The Disc.

Photos by Ken Bousquet



Now that you've had a chance to work with Gil Amelio, what do you think of him?

I think Gil is the best person we can have leading the company right now. I might be wrong. It might be that there's somebody who has all of Gil's good qualities and also the charisma and vision of a Steve Jobs, but the first thing you have to do is get a company healthy and then work from there to make great products. The engineering side of Gil really does want to make great products, and he's very good at getting this company healthy, back in shape. I'm very thankful we have him—and I didn't think I'd be saying that at first, when I watched from the outside; but on the inside, that's my belief.

> I stand for not releasing products that have a high rate of failure.

While you were watching Apple from the outside, what experiences did you have that could now help?

I'll typically buy 10 of any Apple product when it comes out—or five, but never just one. I would see the same problem in each of them and realize the whole country's getting that problem, the whole world's getting it. You don't hear about it in the press. Then you start to hear leaks, and then Apple kind of fluffs it off at first and eventually acknowledges it's real—and you know it's real when you've got the computer yourself. I've seen that happen so many times, starting even with the PowerBook 100s. I was one of the first with the floppy disk problem. They couldn't tell me, "You bought a bad one," because I got *five* bad ones.

Do you think Amelio will make changes that lead to better-quality products?

Yeah. Gil held his head in his hands when I told him I had some Apple StyleWriters that were from kids' homes and that I had sent 15 of them to Apple for repairs, and they came back eight months later repaired; and then I sent 11 in, and they took 11 months to get repaired. Most people would just say, "This is unbelievable. I can't believe any company would do that." I don't know that a lot of these things have gotten attended to or fixed. Now we have stronger quality control that supposedly isn't going to let out bad products, and I stand for not letting out any products that will have a high rate of failure, especially if the failure is a freeze.

How do you think Apple is doing in maintaining its edge as a technology company?

Very, very, very poorly, and they think they're doing very, very, very great. The reason that they think they're doing very, very great as a technology company is because they have a hot set of computers out this year—both desktops and PowerBooks that are hot for speed—and, to them, the technology is about getting the highest speed, even if it costs 6,500 bucks. And they wonder how come we don't rule the world with a computer like the PowerBook 3400. Well, at 6,500 bucks, you're going to find a lot of people deciding not to buy them for their kids. Technology isn't just putting in the fastest processor and the most RAM—that's packaging.

As a technology leader, we have been a great, great leader. Maybe we haven't done as much as Microsoft, and we're not as big, but we've got QuickTime technologies, PowerTalk technologies, speech technologies. The Newton technology is impressive. We had so many technologies in the Apple II, the Macintosh, the LaserWriter, AppleTalk, I mean it just never ends. We even had some of the first ergonomic keyboards.

Our most important technology has been the Macintosh operating system. It made the world of computing more understandable and easier to use for the masses. It really made everything [else] that happened possible. Unfortunately, other technologies that try to do the same thing get fought off. Our customers are Mac users who are supposed to appreciate that sort of thing and who boast about the fact that Macs are easier to use than Windows. In reality, when we come out with new, very human-oriented technologies, our own people have gotten so used to their certain menus that they know by heart, that they don't adapt. I find that Macintosh people don't adapt to trying new ways very quickly at all. And new generations of young people, they're not buying Macs for the home, they're buying a game machine. I think Windows is more of a place where changes will come out of in some of those regards.

What Apple technologies impress you?

They have done incredible things with QuickTime over the years. I saw a lot of discussions over the years where I felt QuickTime was on the chopping block. It was sort of lumped in the category of technologies that we invent that don't bring us any revenues and we shouldn't be doing. Boy, it was so ridiculous, because any good large company—Hewlett-Packard, IBM, and what Apple should be—should invent a few standards for the world. We did invent Firewire, which is used in some digital camcorders, and it's too bad we don't have it on computers yet, but I hear it's coming. PowerTalk is one of the best as far as electronic communication methodologies that are human oriented, which is what Apple Computer as a company has got to be all about. AppleTalk was incredible.

What do you think of the eMate?

I love the eMate. In the education field, the only computers that have really made a big change are the Apple II and the Macintosh. The Apple II came in and said, "Computers should

A few weeks ago, I had my Miranda rights read to me by the Secret Service.

be in schools." The Macintosh said, "Computers can be easy." Teachers are the most scared people in the world of computers and [of not knowing] how to work them and not being able to use them. They don't have computers at home. And here was the Macintosh, which seemed easier.

So we made two big changes in the schools. The eMate is the third change. All the other computer companies are trying to package an all-in-one enclosure, or maybe they're changing the connectors on the back, or they're choosing a certain-speed processor or a certain monitor—these are all packaging games. The eMate is a totally different approach. It says there's a whole different kind of product with the most incredible look you've ever seen, and it does what a student wants to do and not a million other things. It doesn't have an operating system that crashes or that you've got to upgrade every week, and it doesn't have to be sent in for repairs all the time—it's indestructible. Not only that, it's cheap; and because it's cheap, the kids have it with them, all day. Whenever a teacher comes up with a little assignment to do, there's a computer on each student's desk or inside their desk with books. There's a computer for them to use rather than having to bundle up at the four computers in the back of the class. What a great product that education needed.

How did the eMate evolve?

The education department felt they wanted this product, and they couldn't get the PowerBook group interested enough in building it. They went to the Newton group, and the Newton group didn't want to do it, either. They finally did it because they were looking for a reason to exist. I don't like the Newton software that much, except for the fact that it hasn't gone so far in the world—it hasn't become so awkward, doesn't crash, and doesn't have a million things in it yet. The eMate's a very usable machine. We're going to buy them for our school district.

Do you think Apple is moving in the right direction with its system software plans?

From a customer point of view, I didn't really see much change in System 7.6. I lost PowerTalk compatibility, but if you change a couple of creator types, you can make it work; and we had a different Extensions Manager, but it still isn't as good as [Now Software's] Now Startup Manager. I think Mac OS 8, which is coming out, has substantial enough changes that it really deserves more thinking. I think that our policy should be that we don't have a certain number of announced operating system upgrades, but what we should say is the same thing as we did once before, after we learned that we made a mistake with the Apple II. Basically, "Apple II Forever" meant, "Hey, we don't have any plans to cut it off. We don't know how long it'll go, but we're not making any plans to cut it off." We should have that thinking about the Macintosh now and improvements on its operating system, and we should be saying that we are the company that is going to stand by it and keep it going forever.

Partly, when you have a brand-new system coming in, like Rhapsody, there's a tendency to say, "Well, let's drop everything Macintosh." It helps Rhapsody go, for one thing, but I think that the way we announced our operating system strategy kind of left four steps for System 7 being extended, and those four steps kind of sounded like that's the end of the road. And it shouldn't be—and it won't be—because there are too many Mac owners in the world.

What advantages do you see with Rhapsody?

Schools have to hide their computers so they're not as vulnerable to the crashing—random crashes that happen because one program written in a God-awful programming language that's so hard to read if you're a programmer that you have to put a space before every parenthesis and a space after it. The language is C. You write programs in C, and it's quite possible that you test your program, and you test and test it, and it seems to work, but it's possible to have pointers out of bounds, and they're working where they are but are messing up some other program. So the program that crashes often isn't the one that was badly written. And we don't have protection [against that kind of thing]. We'll have it with Rhapsody.

What differences do you see in Apple now and when you were last really inside it?

Ha ha ha ha! I'm not inside. The other day I did get to meet with a group of engineers, and you know what, these were the sort of guys I'd want to spend my own time with in my life. I don't hang around with high-level people. I just have friends who almost don't have a job, just like to joke a lot, engineers....

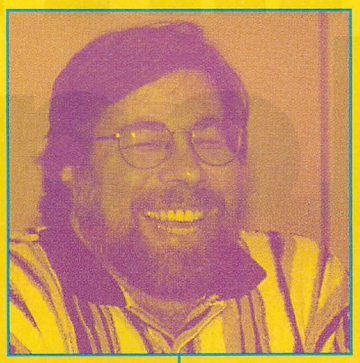
What's the best practical joke you've pulled?

You know, there are so many, it's impossible to say. But a few weeks ago, I had my Miranda rights read to me by the Secret Service.

Why?

Years and years ago, I started buying two-dollar bills. I thought they were just kind of interesting and unique, so I would get them

brand new, serial numbers in order, and use them. Then I got them gummed into a checkbook. Then my son said he saw a place where they were in a sheet. I went to a coin store and found out that you could buy bunches of two-dollar bills on sheets. Well, I bought these sheets of four two-dollar bills, and I got a hundred of them gummed at the top, and then I got a printer to perforate them all. So I'd go places, and I'd just rip off a two-dollar bill—rrrrrrip—right on the perforations, and hand it to someone. That looks strange. So my strange two-dollar bills got the Secret Service really interested a couple of times, and I've had the police call a few times. I used to spend them everywhere; I always carry them on me. Sometimes I kept scissors with me, and then I'd just cut 'em off. I'd make it seem like I printed them.



Another good prank is, I have a fake picture ID that I made way back when I had a lot of dye-sub printers around. It's a fake ID that seems to say "Department of Defense," but if you look closely, it really says "Department of Defiance." It also says "Laser Safety Officer," and in the picture of me, I've got an eye patch on. That is the only ID I've shown to take flights for the last five years. It's never been refused. It is also the only ID that I showed the Secret Serviceman who read me my Miranda rights and interrogated me for 40 minutes. He bought it; he didn't catch it as being fake. I love that one, it's just wonderful.

Did he even look at the thing?

Well, I think they're impressed by the fact that it says "Laser Safety Officer." I wish I had it with me right now, because you'd be impressed—it looks impressive. When I joined the Laser Society, I found out that there actually is such a position. Like in a hospital, there has to be a laser safety officer. A couple of times I explained the eye patch by saying it was work related—that I had to wear these special safety goggles, and I was allergic to them and had to have an eye operation, and I had the eye patch on that day for the picture. People buy it; they buy anything.

What do you think is in store for computers?

I hoped for a long, long time, being involved with computers so many hours a day, that they would get simpler, but they always get more complex. Nobody can sell a version of a program that's simpler [and have it perceived] as a benefit. I think the Internet caught on quickly because it gave us a respite from the complexity of computers.

Nobody who's a human being wants to go near somebody who works on networks.

How has that complexity affected the use of computers in schools?

Schools used to have a couple of computers here and there that were put in by technologically savvy teachers. Now school districts have an MIS department, and it works pretty much like a corporation, parceling out different models of computers, in different portions of the school district, and networking and configuring routers and everything.

Nobody who's a human being wants to go near somebody who works on networks. Leave them in their closet, alone. Unfortunately, I've had to be a network administrator for two years, and if my son came to me and said, "Dad, I want to be an artist when I grow up," I'd say, "Fine, be what you want to be." If he said, "I want to be a pimp when I grow up," I'd say, "Jesse, that's fine, it's your choice." But if he came to me and said he wanted to be a network administrator when he grew up, I'd disown him on the spot.

How did you get started teaching?

After the five years [of just studying Macs at Unuson], I started teaching in the local schools. I got interested in it by accident and then dipped my foot in and tried a little more, and a little more. I always wanted to be a teacher my whole life, but I wanted to be a real teacher, with an eight-hour job every day, so I wasn't quite there. But I started out with one kid who I discovered was good, which was my own son, and then a girl, and I saw how it helped her life. Then I took up a class of six kids and then a second class of six, so I had two classes at once. Then I had a class of 22 over the summer.

What did you learn from working with the kids?

I learned that it's more important to concentrate training in schools these days on staff. We did a lot of multimedia stuff, but it wasn't worth much in the students' lives when they went to another school and the teachers didn't understand computers and didn't appreciate what the kids could do on them. I saw a lot of the stuff I had taught go to waste because the teachers didn't know enough.

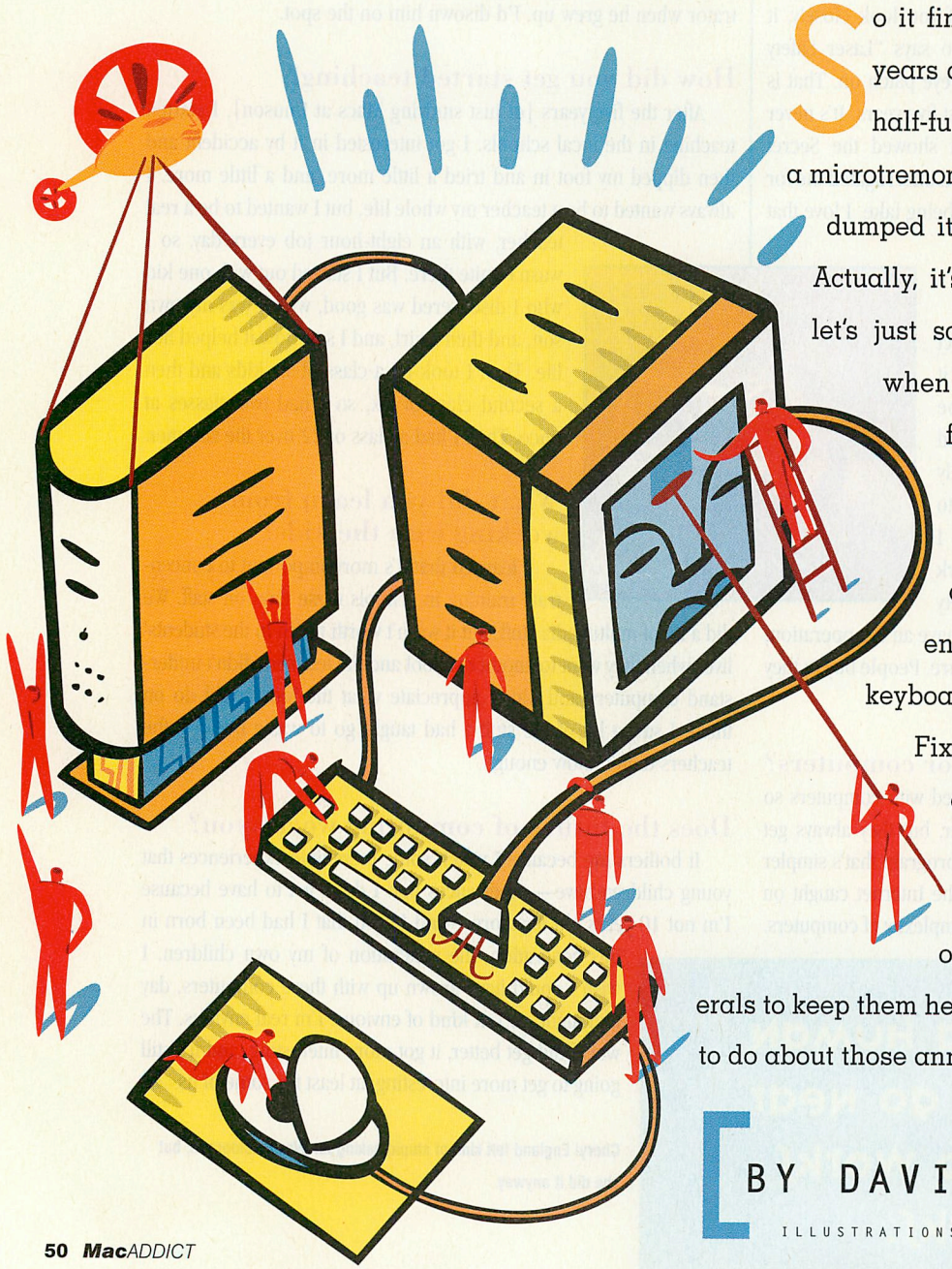
Does the future of computing worry you?

It bothers me because I watch some incredible experiences that young children have—experiences that I don't get to have because I'm not 10 years old anymore—and I wish that I had been born in this generation, the generation of my own children. I wish I could have grown up with these computers, day and night, so I'm kind of envious. I'm real envious. The world did get better, it got more interesting, and it's still going to get more interesting, at least for some of us.

Cheryl England felt kind of stupid asking for Woz's autograph, but she did it anyway.

Coming Clean

SPRUCING UP THAT SILICON WONDER CAN KEEP YOUR HANDS FULL. HERE'S YOUR GUIDE TO TAKING CARE OF YOUR MAC.



So it finally happened. After all those years of tempting fate by balancing a half-full Dr Pepper can on your mouse, a microtremor struck your house, and the can dumped its contents into your keyboard. Actually, it's your brother's keyboard, and let's just say he'll be less than pleased when he starts to type and his fingers stick to the home row. Fortunately, he's on vacation in the Caymans. You have five days until he returns but not enough money to buy a new keyboard. What do you do?

Fix it. Oh, sure, but how do you get eight ounces of drying sugar-water out of a keyboard? We'll tell you. We'll also let you in on how to pamper those peripherals to keep them healthy, and we'll show you what to do about those annoying hardware problems.

BY DAVID REYNOLDS

ILLUSTRATIONS BY FEDERICO JORDAN

Keyboard

Keyboards take the brunt of a Mac's day-to-day use, and they also take the brunt of the dirt, grime, and other grunge that comes the way of the Mac. Dust, oil—even crumbs—make their way onto and into your keyboard every day, no matter how careful you are.

To clean the keyboard's surface, unplug your keyboard (while your Mac is off), and clean all the keys, the top, and the bottom with some isopropyl alcohol on a paper towel. This should be done whenever your Mac keyboard gets so grungy that you just can't stand touching your fingers to the keys. This will vary depending on your personal habits and tolerance for sticky typing, but it probably doesn't have to be done more than once every couple of months.

For those who sympathize with Felix Unger, you can disassemble your keyboard and clean out all the dust bunnies. Take out the screws that hold the keyboard case together (usually these are Phillips or Torx screws). Use a can of compressed air or an electronics vacuum (not a regular hand-held vacuum cleaner, as these can build up damaging static electricity) to rid yourself of the dusty vermin. Be careful not to touch the circuits inside the keyboard, as you can fry a circuit there without realizing it.

If you've managed to spill liquid into your keyboard, things get a little more involved. First, shut off your Mac as soon as possible. If you've spilled water into your keyboard, turn it upside down over a sink and drain out any remaining water. Then, let your keyboard air-dry for the next few days, allowing the water to completely evaporate before you reconnect it to your Mac. Don't try to accelerate the process with a hairdryer, as you run the risk of damaging components in your keyboard. Once it's dry, reconnect it to your Mac, start it up, and see if it all works as you expect.

If you've managed to spill a sticky liquid (pretty much anything other than water) into your keyboard, you'll need to do a little more work. Shut down your Mac, disconnect the keyboard, and drain it over a sink. Open the keyboard by taking out the screws that hold the case together. Using a key puller (not easy to find—try a computer electronics store), pull off the keys and clean them thoroughly with lukewarm distilled water. Clean any areas where you see liquid. Use a soft-bristled toothbrush if necessary, but be careful to scrub lightly. Allow all components to air-dry. This could take a couple of days. Once dry, reassemble everything, reconnect your keyboard, and hopefully, all will be well.

KEYBOARD CARE:

- Don't plug in or unplug your keyboard while your Mac is running. Doing this can damage your keyboard over time, as the ADB connections carry current and can fry components if not handled properly.
- Don't use your keyboard as a place mat. The most common source of problems for keyboards is foreign matter that "somehow" makes its way into your keyboard.

Mouse

For as much gunk as your keyboard picks up, the ball and rollers inside your mouse pick up just as much. Your mouse is sticky if your pointer jumps on the screen, rolling your mouse feels like driving down a gravel road, or the pointer won't move horizontally or vertically.

Cleaning a mouse is pretty simple. Shut off your Mac, unplug the mouse, and turn it upside down. Turn the restraining ring clockwise (on most mice), and the ring will pop off. Turn the mouse over, and the mouse ball will fall out. Clean this with soap and water, then dry it off with a lint-free cloth. Inside the mouse, you'll see three rollers—one horizontal, one vertical, and one set at a diagonal angle. These will probably have a band of gray-black gunk built up on them. Scrape off this gunk using a fingernail, or if that repulses you, use a cotton swab dipped in isopropyl alcohol to get all the rollers squeaky clean. Put the ball back in, then put the restraining ring back on. Plug the mouse in, start up your Mac, and you're ready to roll.

MOUSE CARE:

- Never connect or disconnect a mouse from a Mac that is still running. ADB connections carry electrical current, and disrupting this current by connecting or disconnecting can damage the mouse over time.
- Clean your mouse regularly, even before the pointer stops moving. Mouse cleaning is easier if done in small steps, and your mouse will thank you for it.

Floppy Drive

Because of the way floppy disk drives operate, you don't need to clean them on a regular basis. About the only time that you'll need to clean your drive is if you are having problems. In that case, buy a floppy disk drive cleaning kit, and follow the directions on the package.

WHAT YOU SHOULD HAVE IN A HARDWARE CARE KIT:

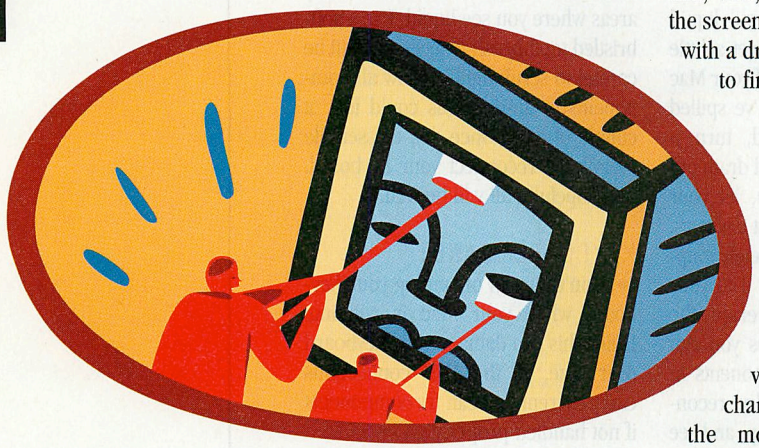
- Isopropyl alcohol
- A clean, lint-free soft cloth
- Cotton swabs
- Distilled water
- A clean, soft-bristled toothbrush
- A can of compressed air (or a specially manufactured electronics vacuum—*not* a Dustbuster or other hand-held vacuum cleaner)
- An antistatic strip
- A Curtis 55-piece toolkit (optional but great)

WHAT YOU SHOULD NEVER DO:

- Touch the flyback transformer on your monitor
- Touch *any* component "just to see what it feels like"
- Blow on a circuitboard, chip, and so on to get rid of dust
- Shake your hard drive violently while it's running
- Shake your hard drive violently while it's off
- Plug in or unplug an ADB device while your Mac is on
- Plug in or unplug a SCSI device while your Mac (or the devices) are on
- Accept political contributions from foreign nationals

Monitor

Because of the way it makes images (by shooting hundreds of thousands of volts of electron beams at a phosphorous screen), your monitor collects dust like *War and Peace*. To clean the screen, just spray some glass cleaner on a paper towel or a lint-free cloth. Don't spray it directly on the screen, as you'll likely get more cleaner than you bargained for, and it will drip into your monitor's lower casing, and, well, nobody wants that. Wipe the screen to clean it, then follow up with a dry paper towel or dry cloth to finish the job.



If you want to clean the inside of your monitor (for some unknown reason), we offer these words of advice: Don't do it. The flyback transformer in your monitor stores hundreds of thousands of volts of electricity, and that charge stays there even with the monitor turned off and unplugged. If your monitor must be cleaned (let's say something was spilled in it), it's best to take your monitor to someone who knows their way around a picture tube and can discharge that transformer without ending up embedded in the opposite wall.

MONITOR CARE:

- Screensaver or not? If the same image were left onscreen too long, older monitors would burn this image in, and it would be there, haunting you with its ghostly presence for as long as the monitor lived. Screensavers were meant to keep burn-in from happening by changing the image on your monitor every so often. Although newer monitors don't suffer from the same problem, a screensaver can't hurt.
- Keep magnets and unshielded speakers (ones not designed for computers) away from your monitor. They will distort the image on the front, and while this may look pretty, it may also mean that you have to get someone to recalibrate your monitor down the line.

SCSI

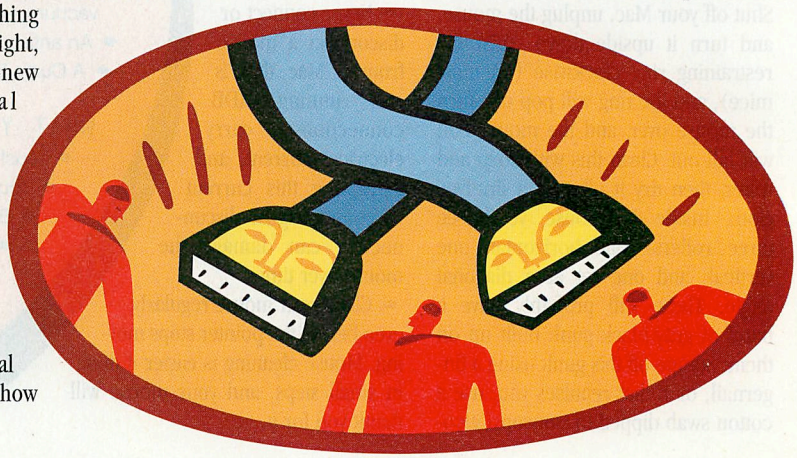
The inclusion of a SCSI (Small Computer System Interface) bus in every Macintosh since the Plus is worthy of great praise, because it allows you to connect all kinds of devices to your Mac with a minimum of hassle. That is, if you consider ripping out your own still-beating heart from frustration over trying to hook up that third SCSI device a minimum of hassle. Although you may have done everything seemingly right, your brand-new magneto-optical drive still won't show up. The problem could be improper termination, a bad cable, or conflicting SCSI addresses, or you just didn't make the right sacrifice to the SCSI gods.

If you want to hook up a SCSI device (such as an external hard drive or a scanner), here's how to get the best results.

TRIPLE STANDARD:

The SCSI standard is divided into SCSI-1, SCSI-2, and SCSI-3. Your Mac uses SCSI-1, and Power Macintosh 7500, 7600, 8500, and 9500 models use the "fast" portion of the SCSI-2 standard.

- Use a good-quality cable—SCSI cable quality makes a difference. Choose a SCSI cable that's shielded and has twisted-pair wires. Remember: Thicker is better when it comes to SCSI cables. Also, you should use the same brand and type of cable for all devices, if at all possible, as this will help eliminate cable problems.
- Make sure that each SCSI device on your chain has a unique address. Each SCSI chain has eight addresses. Your Mac occupies address seven; your Mac's internal hard drive typically occupies address zero. If you have an internal CD-ROM drive, it typically occupies address three. Use a SCSI utility to show you what addresses are already taken on your SCSI chain.
- Termination is not just a Schwartzenegger thing; use a terminating resister (or terminator) on each end of your SCSI chain. Your Mac occupies one



end of the SCSI chain; you have to terminate only the last device on the external SCSI chain. Some devices have internal termination, which means you don't have to use a terminator, or they may come with a switch that turns termination on or off.

- If you keep having SCSI problems, try rearranging the order of the devices in the SCSI chain. This may help matters.
- Keep all SCSI devices powered up while your Mac is on. Even if you don't use the attached SCSI device, it needs to be powered up while your Mac is running so that it can transmit SCSI data properly.

Here are some other tips to keep your SCSI devices running trouble free.

- Keep your SCSI chain less than 20 feet. If the total length of SCSI cables attached to your Mac is more than 20 feet, you may have problems due to signal loss. Also, each individual SCSI cable should be 24 inches or shorter, although you may be able to get away with cables as long as 6 feet.
- If your SCSI chain gives you fits, start isolating devices. Remove a device, and if the problem doesn't clear up, remove another device until the problem disappears. Most likely, the last device removed before a problem is corrected is the one that was giving you problems.
- Give higher addresses to startup devices, and lower addresses to seldom-used devices. These addresses translate into priorities. Higher addresses receive higher priority on the SCSI feeding chain.

SCSI and IDE

For a long time, Apple has used SCSI (Small Computer System Interface) as its way of hooking up a hard drive, both internally and externally, to each Mac. Then, with the Mac LC 580, Apple started using IDE (Integrated Drive Electronics) internal hard drives in some computers, primarily Performa and PowerBook computers, to hook up internal hard drives. (All Macs, from the Mac Plus on, ship with an external SCSI port.) Although this may not sound important, there are some things you should know about the Mac's internal IDE bus.

- If you want to know whether your Mac uses IDE or SCSI for its internal hard drive, launch SCSI Probe or some other SCSI utility. If your internal hard drive shows up in the SCSI utility, it's a SCSI drive. If not, it's an IDE drive.
- If your Mac's drive is an IDE drive, buy another IDE drive if you plan to upgrade your internal hard drive. A SCSI drive will not plug into an IDE slot. Unfortunately, you're limited to one IDE drive in your Mac at once, which makes it almost essential to buy an external SCSI hard drive so you can use it to transfer data between drives.
- Make sure your hard drive utility program supports IDE, as well as SCSI, before you buy.
- IDE-based Macs can use an Enhanced IDE (EIDE) drive, as long as the EIDE drive supports logical block addressing.

SCSI allows multiple drives to be attached to a computer, but in typical Macs with IDE drives, only one IDE drive can be attached. IDE and EIDE drives are meant to make drives cheaper and easier to upgrade.

SCSI UPSIDE:

A fast, flexible, mature standard. The SCSI standard allows you to hook several drives together and copy data among them.

SCSI DOWNSIDE:

Termination doesn't always work right. Multiple addresses require some bookkeeping to prevent address conflicts.

IDE UPSIDE:

IDE drives tend to be less expensive than SCSI drives, and they currently perform at the same speed.

IDE DOWNSIDE:

Not all utilities recognize IDE drives. Installing a new IDE drive can be difficult, because typically only one IDE device can be attached at a time, thus requiring a SCSI hard drive to do a transfer. The original IDE drive cannot then be used as a second internal hard drive.

Your Mac's Insides

You typically won't need to clean the inside of your Mac, but if you have it open while doing something else, such as a RAM upgrade, you can take that opportunity to get rid of the accumulated dust—remember, use a can of compressed air or a specially designed electronics vacuum, not a Dustbuster or other hand-held vacuum cleaner, as these can build up a static electricity charge and damage your Mac's internal components.

If you've managed to spill something into the inside of your Mac, you still have options. If you're the least bit squeamish about delving into your Mac's guts, then take it to an authorized service center and let the technicians take the chances. If you're the adventurous sort, however, you can open up your Mac and attempt to clean it. Unplug your Mac and let it sit for a couple of hours to make sure that all the components have time to discharge. Open your Mac's case, and carefully clean with distilled water anyplace that the liquid has touched. Use a clean, soft-bristled toothbrush to clean any areas that don't come clean with water alone. Let your Mac air-dry for a couple of days before reassembling it. When completely dry, put it back together and try starting up.

MAC CASE CARE:

- Always use an antistatic device when rummaging around the insides of your Mac. Just a little bit of static electricity can wreak a whole lot of havoc on those delicate tracings that are all over inside your Mac.
- Don't blow on your Mac's insides to get rid of dust, because when you blow (no matter how cleanly you blow), particles and moisture are carried on your breath and stick to the components in your Mac. Instead, use compressed air or a vacuum specially designed for use with electronics equipment.

[Hard Drive]

Although the motherboard in your Mac is what makes things happen, you can think of your hard drive as your Mac. It contains all your files and applications, and it holds your System software, which has been configured just the way you like it. Physically, hard drives don't require a lot of care. They are sensitive to shock and temperature, so don't shake a hard drive violently or put it in a car with the windows rolled up on a sunny day, and you'll be OK.

A hard drive does require some maintenance, however. From time to time, you should do a few things to make sure your hard drive is happy and healthy.

- Update the driver. Each hard drive has a bit of software called a driver that tells your Mac how to use the hard drive. Every so often, the company that made your hard drive's driver releases an update to that driver. When available, get the new driver and update your hard drive's driver, especially before installing new System software. Be sure to back up your files before updating a driver. This usually goes flawlessly, but if it doesn't, a corrupt driver can keep you from getting any of the data on your drive.
- Defragment your drive. A hard drive, given the way it works, is subject to fragmentation. Fragmented files are files that have been broken up into several parts when written to a hard drive. Think of it this way: If you were recording an audio CD, and you recorded the first track, then recorded the second track, and then decided that you wanted to add something to the first track, you'd have to make that addition after the second track, because that's where the next available space resides. Hard disk drives suffer the same problem. Heavily fragmented hard drives (with more than 10 percent of the files fragmented) will slow down as the head has to travel to several places to read a file. Defragmenting a hard drive on a regular basis can help save wear and tear on a drive, and can speed it up a little bit. Norton Utilities includes such a defragmenting program.
- Partition your drive. When you partition a hard drive, you divide it into what appear to be different drives even though there is only one physical hard drive. Many hard drive utility programs, such as FWB Hard Disk Toolkit, will let you partition a hard drive, but this is probably easiest to do when the drive is new and has no data on it. Here are three tidbits about partitioning a hard drive.
  - The first is fastest—Partitions are generally created from the outermost portion of a platter first. Because the outer portion spins fastest, the first partition is usually the best performer and is a great place to locate frequently used files (such as the System Folder).
  - Space savings—Because of limitations in the Mac OS, the minimum block that the OS is able to give to a file gets bigger as hard drives get bigger. For a 2GB hard drive, the minimum block size is 32K. On that drive, a 1K text file would take up 32K of disk space, even though 31K of that is empty. By partitioning that drive into four 500MB partitions, the minimum block size is reduced to 8K, and you get more files into the same hard drive space.
  - Health care help—Some viruses may find it more difficult to cross partition boundaries, because they attach themselves to a particular file structure. By creating a partition that handles all your downloaded files, you can protect yourself from viruses. Smaller partitions also make Disk First Aid and Norton Disk Doctor checks happen faster. ◥

David Reynolds will surprise everyone next year when he launches his own line of fragrances in a direct challenge to Elizabeth Taylor.

Data Recovery

There are times when the unthinkable happens. You can't get to the data stored on your hard drive, and no amount of praying to the gods of Norton will help. Before this happens, back up your data. And don't just make one copy, either. Make two backups of essential data. That way, when your original disk crashes, and that freak magnetic pulse destroys your first backup, you'll always have your second backup. If you're like most of the human race and don't back up, however, there is another option in case of dire emergency. There are companies that specialize in recovering data from hard drives. One such company is DriveSavers (800-440-1904; http://www.drivesavers.com). Be sure that data is really important before you resort to a data-recovery service. Recovering the data on a 2GB hard drive can cost between $975 and $3,200, depending on how quickly you need the data and how difficult it is to recover.

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reviews

So you want hardware? We got your hardware right here, buddy.

Power Macintosh 7300 & 9600

FREAKIN' AWESOME

SPIFFY

YEA, WHATEVER

BLECH!

Power Macintosh 7300/180
COMPANY: Apple
CONTACT: 800-800-APPL, http://www.apple.com
PRICE: $2,300 (street)

Power Macintosh 9600/200
COMPANY: Apple
CONTACT: 800-800-APPL, http://www.apple.com
PRICE: $3,700 (street)

THE POWER MACINTOSH 7300 CARRIES POWER that was top-end just months ago. And yet it costs less. How do they do it? Volume! Volume! Volume!

There might be something said for the whole free-market tenet that competition improves the breed. There's no doubt that on its own, Apple would've continued to improve and refine its products, but the last few years, with the rise of clones in the Mac market, Apple's Power Macintosh line has been pushed to be, well, all it can be. Two cases in point: the Power Mac 7300/180 and Power Mac 9600/200. These two units flex more computational muscle than money could've bought a year or so ago, and all for less money. And keyboards are included, all for one low price!

Power Macintosh 7300/180

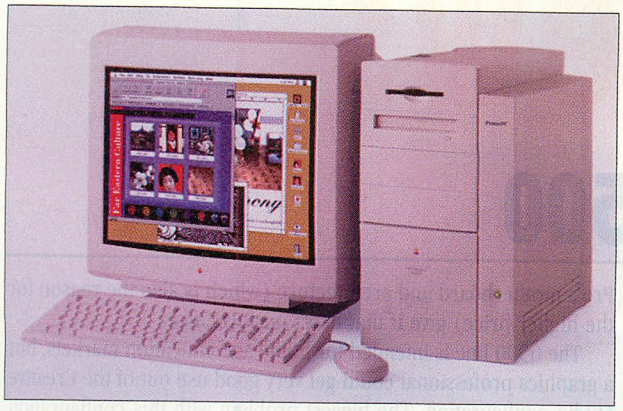
Yes, it's confusing, but the Power Mac 7300 isn't really a successor to the 601-based Power Mac 7200. With its Tsunami motherboard design and 604e chip, it's really the heir to the Power Mac 7600 line, but faster. The only real resemblance to the Power Mac 7200, aside from a cosmetic one (really, can you tell these models apart at 50 paces?), is that the Power Mac 7300 comes without the video-in capabilities that were introduced with the now venerable Power Mac 7500. If you miss this feature, there are three 12-inch PCI slots, any one of which can hold a video card such as ATI's XClaim VR. A 2GB hard drive, a 12X CD-ROM drive, and 2MB of Video RAM are standard, and should hold most people for a while (though we used to say that about far less).

So, is it the same, only faster? Pretty much, yes, though that's more of a compliment than a complaint. The Tsunami design was advanced for its time, and still holds up well, especially with the inclusion of 256K of L2 cache. In basic processor tests, the Power Mac 7300 clocked in right where you'd expect it to, at 30 to 35 percent faster than a Power Mac 7600/120. This pushes performance up into levels previously seen only in high-level models, at consumer prices. Basic Adobe Photoshop 4.0 tests didn't show as proportional an improvement, but that was probably due to the fact we had to run Photoshop with less than 8MB of RAM, since the 180MHz version of this computer comes with 16MB of RAM (this is upgradable, of course).

For the price, the Power Mac 7300/180 is a great deal, though for serious users (people who want to run Photoshop or even really good games), more RAM is a must. Before considering this route, however, you might want to look at the Power Mac 7300/200, which, for a few dollars more, packs a 200MHz 604e processor onto a 50MHz bus (the Power Mac 7300/180 has a 45MHz bus) along with 32MB of RAM into an otherwise identical package.

Power Macintosh 9600/200

The King of the Mac Hill, the Power Mac 9600/200, comes in a new case design which, aside from looking cool, is as easy to open and service as a pie is to eat. Simply pop off one side, lay the unit horizontally, flip two translucent-green tabs, and flip up all at once the power supply, the expansion bays, and drives.



NEW ID FOR THE 9600: No more scraped fingers when you add RAM. And it's still darn pretty.

Voilà—unrestricted access to all the PCI and memory slots. It's a thing of beauty.

On that expanse of motherboard is 32MB of RAM, 512K of soldered-on L2 cache, and an IMS Twin Turbo graphics card with 4MB of VRAM. Apple is targeting graphics professionals, and the 4GB AV (high-speed) hard drive, internal FAST SCSI bus (up to 10MB/second), and built-in Ethernet are heavy ammo. And it does work: though the Power Mac 9600/200 showed only a 20 percent advantage in processor tests over the Power Mac 6500/250, real-world tests with Photoshop 4.0 ran up to 50 percent faster than its consumer-oriented cousin, and even 20 percent faster than on a Power Mac 7500 with a 200MHz 604e upgrade card.

There's been a huge debate raging around L2 cache—some say more is always better, others argue that 512K should be enough for current processor and bus speeds. True enough, the Power Mac 9600/200 does benefit from the same upgradable architecture (with the processor on a daughtercard, it's a simple matter to move to a faster chip) so that when 400MHz chips become available, more cache might provide a speed boost. However, most of our daily tasks rely upon so much more than simply processor speed, and having 1MB or more of L2 cache could actually slow performance slightly, at least until bus speeds are upped. Bottom line: having "only" 512K of L2 cache will not hinder your rendering or pixel-pushing, but still, it'd be nice to have a choice.

Overall, the Power Mac 9600/200 stacks up well against any of the high-end clones, not only in performance, but value. The same can be said for the Power Mac 7300/180 and more so for the Power Mac 7300/200. That's the thing about growing up in a competitive environment—it makes you strong, fast, and cheap. *—D. D. Turner*

Power Macintosh 7300/180

Good News: Highly upgradable. Much faster than predecessors. Great value. Bundled keyboard.

Bad News: 16MB of RAM is insufficient for power users. Nothing groundbreaking.

Power Macintosh 9600/200

Good News: Excellent new case design. Good graphics card. Very expandable and upgradable.

Bad News: L2 cache not upgradable. Not so fast for the money.

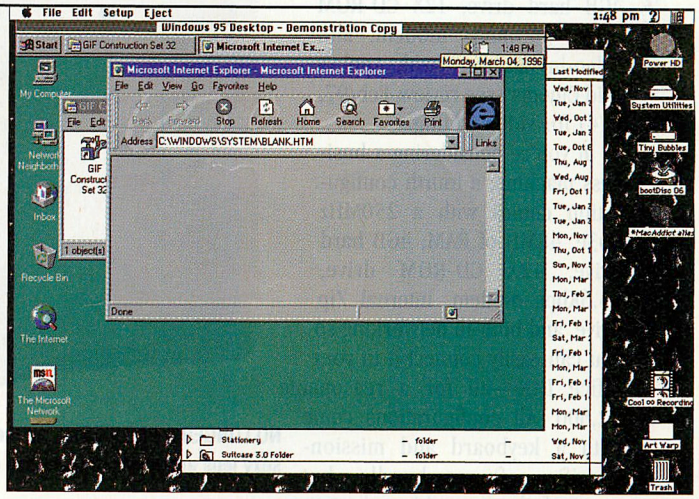
SoftWindows 95 4.0

COMPANY: Insignia Solutions
CONTACT: 800-848-7677, http://www.insignia.com
PRICE: $349 (street)
REQUIREMENTS: Power Mac, 16MB of RAM, System 7.1 or later, CD-ROM drive

We don't advocate using Windows, but maybe you have FoxPro databases or graphics files in CorelDRAW format, or you need to see how your Web pages will look on PCs. Your options are: a hardware card, a whole other computer, or SoftWindows. In the past, the first two solutions were prohibitively expensive, and the last was glacially slow (running the first version of SoftWindows 95 on a Power Mac 7500, we saw about three *seconds* per *frame* performance in id's game Quake).

With this version of SoftWindows 95, Insignia offers a workable alternative to hardware. What you run it on has a great deal to do with how tolerable the experience is. On a 200MHz machine, windows open without delay, and programs launch before you forget what you wanted to do. You wouldn't want to make this your primary game machine (even though SoftWindows now does a good job of emulating sound cards and other hardware widgets), but it'll do for checking email in a PC-based office or transferring data or even working with databases—just don't expect anything to fly.

SoftWindows 95's best feature may be the ease of accessing the Internet. If your Mac is hooked up to the Net, Microsoft Internet Explorer will go—though even on an ISDN line, the effective download speed was roughly that of a 9600 baud modem. Still, if you're a Web worker and need to know how fonts



AT LEAST WITH SOFTWINDOWS 95 you can contain Microsoft within your Mac desktop.

and colors will look on the Windows side, this will work.

All in all, we spent a lot of time messing with .dll files and cursing strange error messages. It's Windows, all right. *—D. D. Turner*

GOOD NEWS: Acceptable speed for business users on high-end Macs. Easy Internet access. Works on PowerBooks.

BAD NEWS: Still a few compatibility problems with certain computers. Still slower than some hardware solutions. It's Windows.

Power Macintosh 6500

COMPANY: Apple
CONTACT: 408-996-1010, http://www.apple.com
PRICE: $2,000 to $3,000 (street), depending on configuration

Apple's new Power Macintosh 6500 line should finally dispel the tired old canard that the Wintel world offers a better price/performance ratio. Computers are constantly getting faster and cheaper, but the Mac market hasn't seen this kind of pricing and speed since, well, never. A blistering 250MHz for around $2,000? Bring it on!

The 6500, which looks like a 6400 from the outside, comes in four different configurations. The least expensive two are aimed at home use. Starting at $2,000, you get a 225MHz 603e processor, 32MB of RAM, 3GB hard drive, 12X CD-ROM drive, 33.6Kbps internal modem, and 256K Level 2 cache. An extra $300 buys you all of the above but with a 250MHz 603e, 4GB hard drive, and internal Zip drive (this is the configuration we tested). There's also a Creative Studio version, with a 275MHz 603e, 32MB of RAM, 4GB hard drive, 12X CD-ROM drive, 33.6Kbps modem, and video-in hardware with Apple's Avid Cinema (see review, Feb/97, p74) for video editing.

If you're considering a business machine, a fourth configuration comes with a 250MHz 603e, 48MB of RAM, 4GB hard drive, 12X CD-ROM drive, 33.6Kbps modem, internal Zip drive, and built-in networking so you can easily connect it to your office LAN—all for a reasonable $2,600. All configurations come with a keyboard and mission-specific software bundle, but none of these machines has an upgradable processor or expandable VRAM, so if you're an upgrade junkie, this isn't the machine for you.

Although the 603e is nominally slower than the top-of-the-line 604e chip, when it's cruising along at 250MHz, one can hardly complain. In terms of raw computing power, as benchmarked by Speedometer 4.02, the 250MHz 6500 was within 20 percent of a Power Computing PowerTower Pro 225, which is remarkable considering the $2,000 price difference between the two. However, in a real-world test using Adobe Photoshop, the 6500 was about 40 percent slower than the big boy. The PowerTower Pro's motherboard and architecture (which is also the reason for the higher price) give it that extra performance.

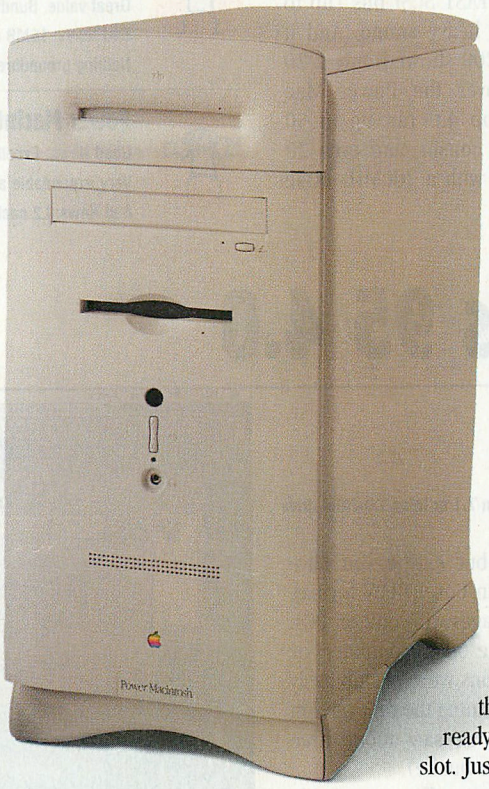
The 6500 line is intended for home and education markets, but a graphics professional could get very good use out of the Creative Studio configuration. The biggest problem with this configuration is that you can't expand the VRAM past the included 2MB, which gives you millions of colors at a maximum of 800-x-600-pixel resolution. Apple has said that adding another graphics card to the PCI bus will not be compatible with the built-in ATI Technologies chipset, so the only option is to buy a PCI card from ATI to get more VRAM and/or an extra monitor. This seems a bit silly to have to purchase what is essentially the same chipset that's already on the motherboard just to get extra VRAM.

OK, all this business junk is well and good, but what about the real reason you're buying this machine? How well will it play all the cool 3D games such as Bungie Software Products' Weekend Warrior and Activision's MechWarrior 2? Will you need to blow even more money to get a 3D acceleration card?

Never fear. Apple included ATI's 3D acceleration chipset right on the motherboard, so you can play RAVE-accelerated 3D games to your heart's content. Most of the software bundles include these games, so you can be productive with your new computer right out of the box. Even the 2D graphics were tweaked, giving much snappier scrolling and screen redraws.

Think it's hard to get inside computers? Well, on the 6500 the entire motherboard slides right out of the back without even loosening a screw. Just press the two quick-release tabs and out it comes, for ready access to two DIMM slots and an L2 cache slot. Just don't try this in the winter after you've been scuffing your feet on the carpet.

The 6500 is a significant boost to Apple's Power Mac lineup, proving that the company can still turn out great machines at a great price. It isn't made for heavy-duty graphics and imaging, but the 6500 can handle a moderate workload. Despite the lack of an upgradable processor and the video expansion limitation, you can put blazing performance in your home without taking out a second mortgage. —*Wade Albright*



NO LONGER A PERFORMA, but the Power Mac 6500 still has sexy legs and a kick. Sunglasses extra (see The Disc).

GOOD NEWS: Onboard ATI 3D graphics acceleration. Internal Zip drive option. Fast internal modem.
BAD NEWS: VRAM and processor aren't upgradable. Onboard ATI 3D acceleration precludes the use of a third-party PCI graphics card.

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reviews

PowerBook 3400c/200

COMPANY: Apple
CONTACT: 408-996-1010, http://powerbook.apple.com
PRICE: $5,499.95 (street)

Apple's new PowerBook 3400c/200 is the first truly awesome laptop to come out of Cupertino in quite a few years. If the 1400 is a reliable old Volvo, then the 3400 is a Porsche 911 Turbo that can somehow hold much more than the Volvo. It's fast, sleek, and has tons of features. Pretty impressive trick, and it doesn't involve any warping of space-time.

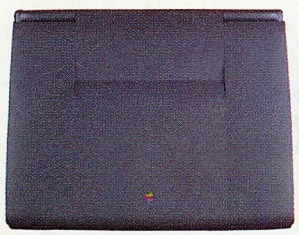
The PowerBook 3400 is fast, fast, fast, just as you'd expect from a Macintosh powered by a 200MHz 603e with 256K of Level 2 cache. Benchmarked against a Performa 6400/200 with 256K of L2 cache, the 3400 held its ground.

This laptop isn't a one-trick speed-freak pony, though. No, the 3400 was designed and built with a "no compromises" attitude, and Apple managed to keep most compromises to a minimum. Take multimedia. The 3400's 12.1-inch active-matrix color display is bright and clear at 800 x 600 pixels, and this 'Book is capable of playing full-motion video at an impressive rate. With four speakers built into the case, the 3400 sounds great as well, especially when you're in front of the display and crossover stereo sound pans between the speakers.

The PowerBook 3400 is one of the most flexible-to-configure Macs to come along in a while. In a nod to the patron saint of nifty engineering (St. Patrick or Ferdinand III, depending on your preference), three of the four 3400 configurations come with a combination Ethernet/modem port. Without an adapter, you can plug a phone or an Ethernet line into the port. With an adapter (included), you can plug in both simultaneously. The 3400 also allows you to hot-swap the CD-ROM drive and floppy drive modules without putting your PowerBook to sleep. This trick worked flawlessly each time we tried it. You can also use PowerBook 5300 expansion bay modules with the 3400.

The newest PowerBook is also rock solid. After many hours of use, the 3400 hiccuped only once with a Type 11 error. Battery life, though not outstanding, is good. With a lithium-ion battery, the 3400 lived up to its specs, giving two and a half hours of battery life while doing nearly nonstop Adobe Photoshop work.

The 3400 has a slew of other features, including: a PCMCIA expansion slot that takes either two Type II or one Type III PC expansion cards; RAM expandable to 144MB; Zoom Video support, which allows your 3400 to display 30 frames-per-second video from an external source; an IrDA-standard infrared port, which lets you connect to other IR-equipped devices via a 230Kbps IRTalk connection; and 16-bit sound in and out. With all of this packed into a case that's not much bigger than a three-ring binder, the 3400 weighs in at 6.9 to 7.4 pounds—comparable to similarly equipped PC laptops.



THE MUSCULAR BULGES contain the 3400's extra speakers.

Photographs by Aaron Lauer

THE LAPTOP OF LUXURY: Yet the PowerBook 3400 is capable of honest desktop work.

Although the 3400 packs a wallop, it isn't perfect. The video-out port provides only video mirroring; it does not support a second monitor, which has been traditional on Macs. This is a minor point but an important one to anyone who wants to use the 3400 as a desktop system, taking advantage of a second monitor to do color-critical work and leaving the PowerBook display for tool palettes. The 3400 also has only one RAM slot, which means that if you want to upgrade your RAM and you already have a card that occupies the RAM expansion slot, you'll have to see if you can sell the original memory card, because you're sure not going to be able to use it anywhere else. (Stock 3400s ship with 16MB of RAM.) One megabyte of VRAM is soldered to the motherboard, which limits video display to thousands of colors on the PowerBook screen and 256 colors on an external monitor at 1,024-x-768-pixel resolution.

The 3400 is the first PowerBook that could work as a desktop unit. About the only limitations are in the areas of video display and PCI expansion. If you can live within 1 MB of VRAM and PCMCIA expansion slots (the PCI expansion slot is taken up by the Asanté Ethernet/modem card), the 3400 might be the new Mac for you. That is, if you can come up with the financing to swing the deal. After all, owning the sovereign ruler of all laptops in the universe does not come cheap. *—David Reynolds*

GOOD NEWS: Speed, speed, speed. Hot-swappable CD-ROM, floppy drive. Good battery life.
BAD NEWS: Video out is in mirror mode only. Out of the price range of most buyers. Only one RAM slot for memory expansion.

You Gotta Love A Guy Who Thinks The Bureau of Alcohol, Tobacco & Firearms is a Convenience Store

"Absolutely the best first-person game of the year, bar none...Duke Nukem is the undisputed king."
Boot Magazine

"A perfect 10!"
Computer Player

"★★★★★" (5 out of 5 stars)
Computer Life

"★★★★★" (5 out of 5 stars)
PC Games

"...it makes pretty much every PC game we've seen – DOOM included – look slightly dull."
PC Gamer

"Duke is king."
Computer Gaming World

#1
Selling PC Game of 1996

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System Requirements: Macintosh with a 68040 or higher microprocessor, 8MB RAM, color monitor and CD-ROM drive. Also accelerated for Power Macintosh.

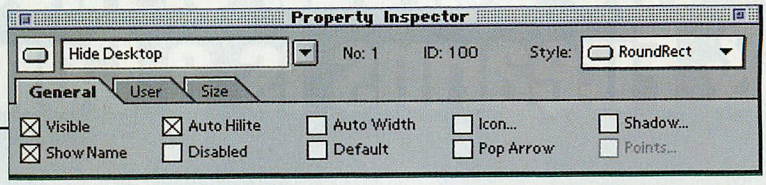
Created by 3D Realms

Mac version by Lion Entertainment, Inc.

MacSoft®
A GT Interactive Company
2300 Berkshire Lane, Plymouth, MN 55441 612.509.7600

reviews

SuperCard 3.0



NEW EDITING TOOLS make project authoring easier. Interactively edit the properties of any object with the Property Inspector.

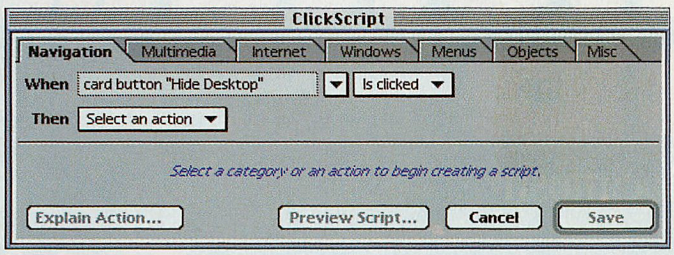
COMPANY: Allegiant Technologies
CONTACT: 619-587-0500, http://www.allegiant.com
PRICE: $329 (street)
REQUIREMENTS: 68040 or Power Mac, 6MB of RAM, System 7.0, QuickTime 2.0, CD-ROM drive (recommended: 24MB of RAM, 2GB hard drive, CD-Recordable burner

Remember HyperCard, the original multimedia authoring program? Just another amazing innovation that Apple let slide into obscurity. Sure, Cupertino promised HyperCard 3.0 sometime this year, but diehard stackers who don't want to wait should seriously consider SuperCard 3.0. This version of Allegiant Technologies' HyperCard work-alike not only offers much of what HyperCard 3.0 will include but also has matured sufficiently to give Macromedia Director and mFactory's mTropolis a run for their money.

SuperCard 3.0 is HyperCard on steroids. You get the familiar stack-of-cards-with-buttons-and-fields metaphor, a HyperTalk-style scripting language, and the ability to create stand-alone, royalty-free multimedia. But SuperCard's improvements on this basic model are too numerous to list. Just on the graphics side, it has 8-bit color paint built in—HyperCard is still, yes, still, black and white—plus easy import of 24-bit images. Path-based animation is also native; in HyperCard, animation is a clumsy add-on. You can play QuickTime movies in any window and coordinate other actions with the playback by using scripting callbacks, an essential for game-style interactivity.

The big news in this version of SuperCard is the authoring tools. The new Project Editor, in which you do most of the project creation, is a major improvement over the previous SuperEdit environment. (SuperEdit is still there for those who prefer it.) Tabbed floaters allow you to inspect and interactively alter all the objects in your stack. The Project Browser provides an editable list of your project's entire contents; that's a tool HyperCard authors would die for.

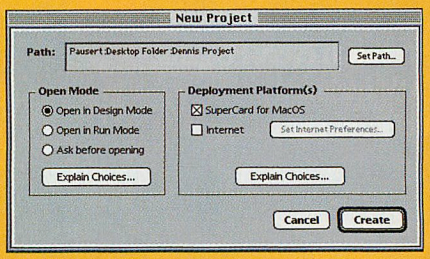
Anyone considering a major authoring project in SuperCard would be well advised to learn SuperTalk, SuperCard's expanded version of HyperTalk. Like HyperTalk, SuperTalk is a powerful scripting language that boasts a few tricks that even Lingo, Director's well-regarded scripting language, can't match. (Check out the character-level text-manipulation commands



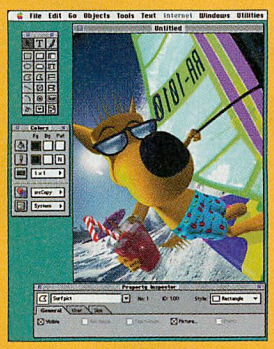
MAKE SIMPLE SCRIPT with the ClickScript tool. Choose objects, commands, and so on from the pop-up menus. Scripting study still required, though.

SuperCard Mini-tutorial: Jungle Surf Nose

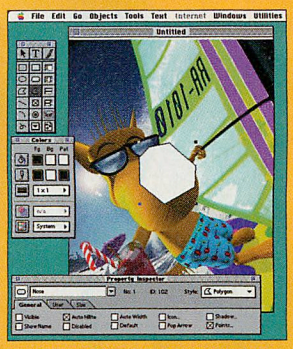
SuperCard holds a few pleasant surprises for anyone accustomed to HyperCard's antiquated ways of doing things. Here's a brief starter on creating a new project, setting up a window, importing a 24-bit color graphic, making a custom button, and attaching an action to it.



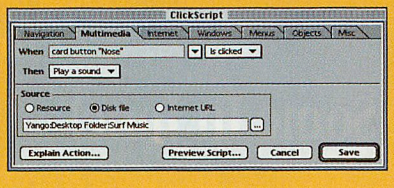
ON CREATING A NEW PROJECT, SuperCard asks whether you want to enter design mode or runtime mode, and whether you're developing for the desktop or the Web. The default window size is 320 x 240 pixels, but you can specify any custom size and screen positioning with the Property Inspector. In most cases, you'll want the card background and the card window to be the same size. SuperCard makes every kind of standard Mac window; HyperCard and Director can't touch that.



IMPORT 24-BIT GRAPHICS in a variety of formats, including JPEG. Don't you wish HyperCard could? Art comes in ready to be positioned and scaled.



TO MAKE A NEW CARD BUTTON, choose the button type from the tool palette. This one is polygonal, but round, rectangle, radio, checkbox, and pop-up menu buttons are other choices. We shaped and positioned the button to fit Dennis' nose.



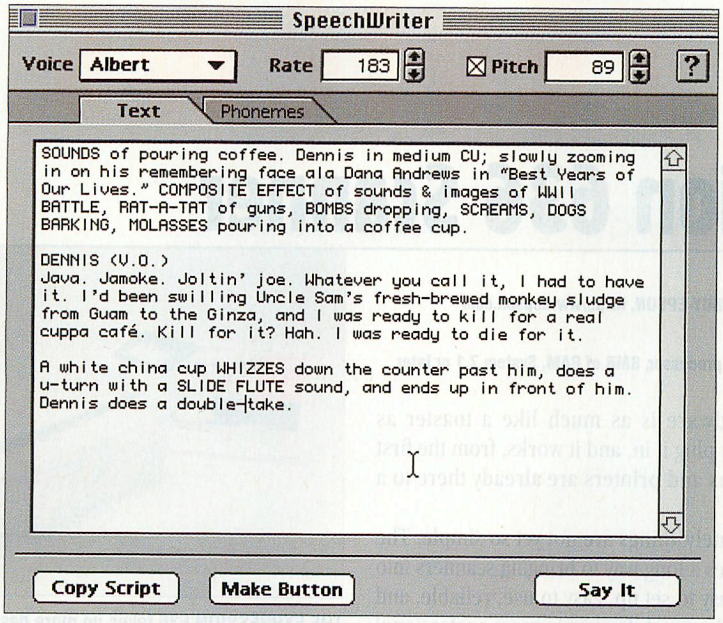
USE THE CLICKSCRIPT TOOL to add actions to any object—no need to write a script. When clicked, Dennis' nose plays an AIFF file of jungle surf music.

in both languages if you're skeptical.)

On the downside: AppleScript fans, beware. Unlike HyperCard, SuperCard does not support AppleScript as a programming environment. And if the thought of writing code gives you the willies, you can turn to ClickScript, a new script generator in which you create handlers by choosing from lists of commands, functions, and expressions. It's functional but limited; creating fancy recursive behavior for your project is possible only with real scripting.

SuperCard's major missing feature is the ability to create cross-platform projects. The program doesn't come in a Windows version (although Allegiant promised one when it released the last version), nor can it create projects that run under Windows. Allegiant partially addresses this glaring shortcoming with Roadster, a browser plug-in that publishes interactive SuperCard projects on the Web. (Check out Apple's LiveCard, shipping with the current version of HyperCard, for a somewhat different implementation of Web stacking.) Roadster is compact and freely distributable, but let's face it, Allegiant will be fighting an uphill battle to get Roadster out to the Shockwave'd masses already stuffed with a surfeit of browser plug-ins.

If you think of interactive authoring mainly in terms of graphics and animation, Director is still your best choice. If you crave flow-chart-style management of your project, get mTropolis. But if you want the maximum access to and control over standard Apple interface elements, plus that familiar HyperCard look and feel, SuperCard is the way to go. —*Steven Anzovin*



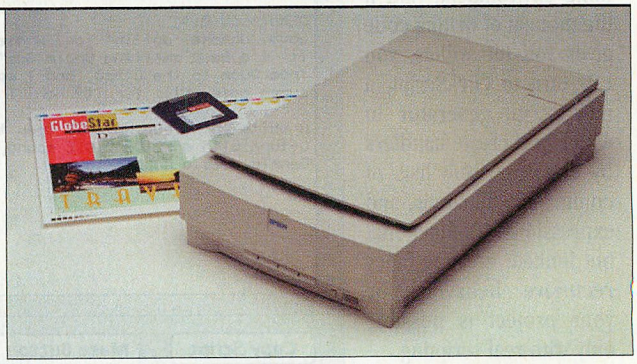
AMONG THE MANY NEAT LITTLE TOOLS in SuperCard 3.0 is this editor for PlainTalk. Add speech to any object. Click to see and edit the phonemes.

GOOD NEWS: Powerful, highly scriptable interactive authoring. Web publishing tools. Compatible with HyperCard stacks. Good value.
BAD NEWS: Complex. No Windows version.

reviews

Expression 636 Scanner

COMPANY: Epson
CONTACT: 800-289-3776 or 800-BUY-EPSON, http://www.epson.com
PRICE: $749 to $1,399 (street)
REQUIREMENTS: 68020 or faster processor, 8MB of RAM, System 7.1 or later



THE EXPRESSION 636 takes up more desk space than an A4 scanner should, but scan quality is impressive.

The best computer hardware is as much like a toaster as possible. You buy it, you plug it in, and it works, from the first time to the last. Modems and printers are already there to a large extent.

With scanners, unfortunately, things are not yet so simple. The Epson 636 series, though, goes a long way to bringing scanners into the "toaster" category: it's easy to set up, easy to use, reliable, and delivers results that are good enough for use in most professional environments.

Setting up the scanner takes about five minutes, including software installation, and, for once, a SCSI cable is included—thank you, Epson. The scanner features a true 600 dpi resolution (with interpolation it can scan 4800 dpi) at 36-bit color. Also included is Epson's TrueScan technology, which offers improved color calibration for both screen and printer. Calibration settings are included for Epson printers, but creating another calibration is pretty easy. People who don't want to go through the bother of calibrating their software and printer don't need to worry too much—the defaults more than acceptable for everyday use.

I DIDN'T EXPECT THE 636 to be able to scan this painting of toast and stoats, but it did an admirable job. The color is true, but notice the banding.

The scanner is Twain compliant, which means that once you install it, you can scan from any source that supports the nearly-universal Twain standard, from Epson's included scanning software to Photoshop or other programs. Epson's scanning software is a product of years of evolution, and it shows in its ease-of-use and intuitiveness. Although most people will probably want to alter the image after scanning, one can adjust the colors, sharpness and more before scanning as well. This can lead to better final images, but it is much more time consuming than just altering an image in Photoshop afterward.

So how are the results? Impressive. We scanned a variety of things, from the mundane (some photos) to the weird (some iron-on patches from the '70s) and nearly everything in-between (including business cards at 4800 dpi "just to see what happens," line art cartoons, and one unlucky coworker's face). The 636 is one the most versatile scanners we've seen in years, providing very realistic colors and good detail, even on line art (which is where some older Epson scanners had problems). Text recognition (using the included e-Paper software) was good, and the scanner was impressively fast. Greyscale scanning (done at 12 bits) was also good. The scanner showed some noticeable banding in colors only when the original was wrinkled or wavy from water damage. And no matter what we did, we could never get the scanner to demoire color half-tones, despite an option for it in the software. Also, the A4 size limit of the scanner can be limiting, and the lack of an automatic document feeder option decreases the OCR value of the unit.

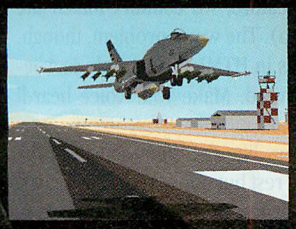
Epson's scanner is available in four configurations; the scanner is the same, only the software is different. For $749 you get the scanner and that's it (and no SCSI cable). $799 gets you the 636 Executive, which comes with Photoshop LE and e-Paper (an OCR/document-management utility). The 636 Artist costs $999 and comes with Photoshop (full version), Kai's Power Tools, Claris Home Page and e-Paper. Finally, the 636 Pro comes with Live Picture, Kai's Power Tools, Home Page, e-Paper, and a transparency unit for $1,399. The bundle prices aren't bad, but we would probably advise against the Pro, unless you really want Live Picture and need the transparency unit (which is also available separately).

Overall, this may be the closest to a "toaster" scanner we've seen yet. It's easy to set up, easy to calibrate, easy to use, and provides impressive results. If you can live with the A4 size scanning area, you'll find that this is a scanner that will work in nearly any environment. —*Chris Charla*

GOOD NEWS: Easy to set up. Extremely refined scanning software. Comes with a SCSI cable.
BAD NEWS: Scanning area only 8 1/2" x 11". Some color banding when using subpar originals.

REACH OUT AND TORCH SOMEONE.

F/A-18 HORNET 3.0



The hottest combat flight simulator is about to blow you away – again. It's F/A-18 Hornet 3.0. With even more realistic instrumentation and weapon system modeling, rolling terrain, extensive wingman commands, a virtual cockpit system with target padlocking, and even a comprehensive CD-based tutorial featuring over 90 minutes of instruction with diagrams and replay footage. F/A-18 Hornet 3.0 will push you to the outer limits then bring you screaming back to earth. So pick up the award winning F/A-18 Hornet today. It's the best way to get close to someone.

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www.graphsim.com/graphsim

reviews

Visual Page 1.0

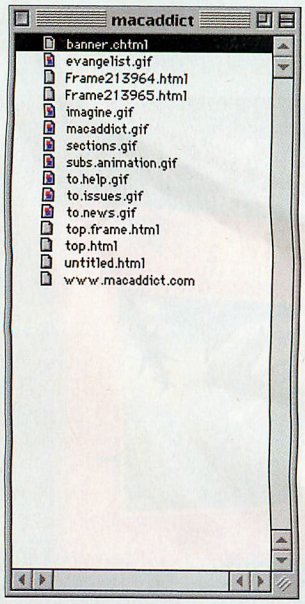
COMPANY: Symantec
CONTACT: 800-441-7234; http://www.symantec.com
PRICE: $99.95 (SRP)
REQUIREMENTS: 68030 or PowerPC, System 7.1 or later, 2MB of RAM, 1.2MB of free disk space, CD-ROM drive

You've got to stand out somehow. Symantec bills Visual Page as the "Web page builder for busy professionals," leaving the field wide open for others to sell to professionals with time on their hands. But seriously, folks, in some respects Symantec has a point.

FIND A DEMO of Visual Page 1.0 on The Disc.

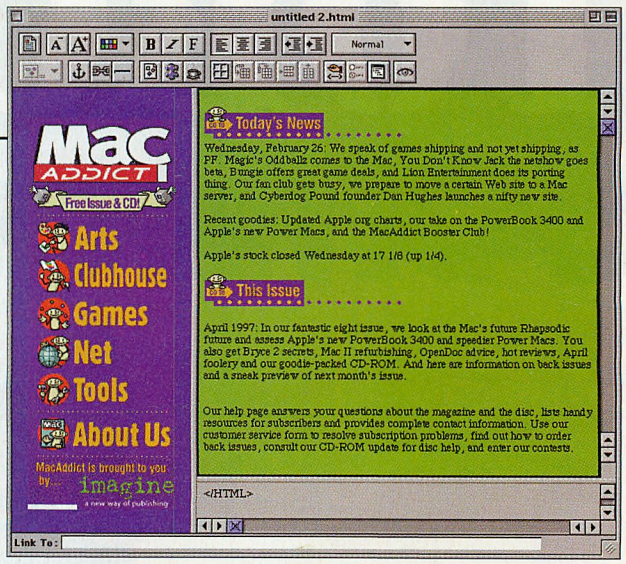
Visual Page's interface will come as no surprise to users of Adobe PageMill or Claris Home Page. You work on your page within a browserlike window, with a familiar toolbar across the top. Type or drag in text, format it, and watch it embolden or italicize. Drag in a graphics file (Visual Page converts PICTs, but not TIFFs, to GIFs) and resize the image: Either drag it, or double-click on it to bring up an Image Properties palette and then type in Height and Width. Unfortunately, there is no proportion lock, as in Adobe Photoshop, so you'll have to do some calculation to keep the image from distorting. Other tools you'd expect are here: text and graphics alignment (Visual Page handles text wrapping around images very well); link creation; Insert Line, Anchor, or Plug-in; and table and form creation. Visual Page creates and handles frames almost exactly the way PageMill does and can preview content within the application. All in all, not much to surprise a veteran of the WYSIWYG wars.

However, under the Potemkin village-like placidity of Visual Page's interface lurk noteworthy features and capabilities. Not only can you insert objects such as QuickTime movies, Java applets, and other plug-in content, you can actually preview the content "live" within Visual Page (to see applets, you need a Power Mac with the Mac OS Runtime for Java). You can resize objects by dragging their borders. However, animated GIFs don't animate.



THE SITE WINDOW shown here is for just one page. As with full sites, organization is crucial.

Another surprise is the Download Remote Site feature. If you like someone's site, why not grab it, images and all? Give Visual Page an URL and watch it thieve away, though some Java applets may stymie these plans. Conversely, you can upload files or whole sites with Visual Page's built-in FTP capabilities. Also, Visual Page can help you do some basic edits on your images, make transparent GIFs, and plot client-side image maps, usually within a simple interface. Building a table is easy: Click the Table button, then drag rows, columns, and headers. Visual Page supports cell coloring per the HTML 3.2 specifications. As for color, Visual Page provides only a small palette of colors, but by going to the Other option, you can access the Apple Color Picker, in which you can use either Pantone ColorWeb (see review, Dec/96, p68) or the browser-safe 216-color palette (downloadable at Lynda Weinman's site, at <http://www.lynda.com>). The Download Statistics feature tells you how long it will take a selected graphic or a whole page to transmit.



TWO MINUTES with the Download Remote Site feature, and you've recreated hours of work. Note, though, the imperfect color match in the left frame, lack of links in the right frame, and missing dynamic banners at bottom.

Still, Visual Page is not just Home Page plus a few features. The working environment is a bit different. Visual Page works best when you open the Site Window, which ultimately should mimic the file structure of your site. Because Visual Page is so drag-and-drop aware, you can manage your links best by leaving this window open: You create hyperlinks to other files by selecting text and dragging the file from the Site Window onto the text. Keeping the dual page/site focus takes some practice, but soon you'll find this a powerful way to deal with site management.

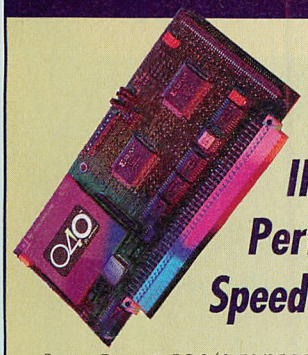
Two last good things—and two bad. Uniquely in Visual Page, you can have both the WYSIWYG and HTML windows open at the same time, so you can nudge a table visually and see the live update in code. Alternately, you can tweak the code and see what the result looks like. Not only is this a timesaver, but it's a great way to learn the subtleties of HTML. Also, Visual Page is unique among the WYSIWYG editors in that it generates textbook-perfect HTML—no "naturalsizeflag" tags, no infinite, invisible spacers. Innovation is good, but bad code is just bad code.

The bad things? No eyedropper feature; we couldn't match the colors of a stolen Web page (see photo). The worst problem, though, has to be the documentation: It comes in HTML format only, is woefully incomplete, and is poorly organized. Make your voice heard! Sacrifice those trees for printed manuals!

All in all, Visual Page comes across like the quiet cousin of the WYSIWYG family: sort of looks like the rest but underneath has a good deal of strength and creativity, despite a few quirks. —*D. D. Turner*

GOOD NEWS: Generates perfect HTML. Handles a wide variety of plug-ins. Built-in Java and JavaScript support. Drag-and-drop features.
BAD NEWS: Terribly incomplete documentation and no printed manual. Interface oddities require learning a few new working methods.

Run Your Mac Faster and Save!



Accelerate Mac LC, LC II, Color Classic, IIci, IIsi, IIvx, or Performa 600 to '040 Speed Starting at $199

Sonnet Presto™ LC 040 50/25 MHz accelerators increase Mac LC, LC II or Color Classic performance 470% as fast as a stock machine (processor performance, MacBench2). Use RAMDoubler or Virtual Memory to break the 10MB barrier with the Presto LC (except Mac LC, OS 7.1+req'd). The Presto LC is only $199, or with hardware Floating Point Unit (FPU) $249.

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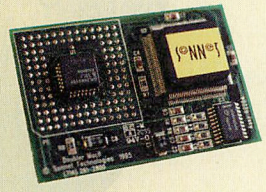
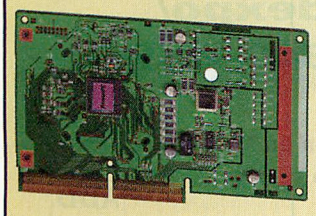
All Prestos are 100% application software compatible and run through System 7.6. The Prestos are easy to install in the Macs' processor direct slot, and come with clear installation instructions. (*Adapter req'd IIsi)

Allegro's Fast 68030s Give New Life to Mac SE, II, IIx, LC, LC II, Color Classic from $99



Give your older Mac more muscle. Sonnet Allegros™ are packed with features at bargain prices. The 33MHz Allegro LC for the Mac LC, LC II, Color Classic doubles your cpu speed, adds 16K level 2 cache and includes an FPU–all for only $149. The 33MHz Allegro SE increases performance 460%, includes an FPU and 4 SIMM slots to expand memory up to 16MB for a bargain $199. Allegro Mac II, IIx models double '030 speed to 33MHz for a mere $99.



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233MHz 604e $1099*

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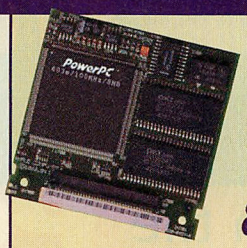

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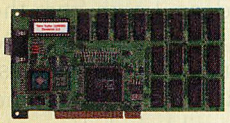

Accelerate graphics 270% in a PCI Power Mac with the fastest video accelerator–the same as Apple bundles with the 9600. Scroll faster. Increase the speed, color depth and resolution on your big monitor. With 4/8MB VRAM.....$349/$549

Cache Doubles Speed?

True. An Apple PowerMac with 1MB cache runs 195% as fast as cacheless on 200MHz 604e (MacBench 4).256/512K cache boosts 138/169% respectively.

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512K for 72/73/75/76/85/8600.....$99
1M for 72/73/75/7600/85/8600....$199
256K 5260/6360/54/55/64/6500 ...$99
512K 5260/6360/54/55/64/6500 .$149

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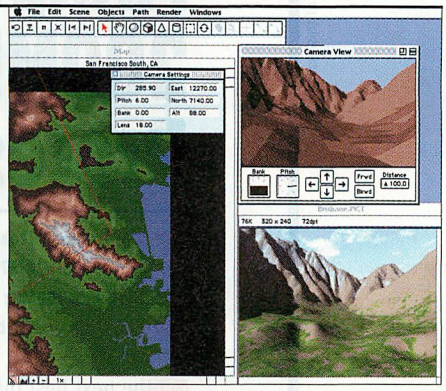
reviews

Natural Scene Designer

COMPANY: Natural Graphics
CONTACT: 916-624-1436;
http://www.naturalgfx.com
PRICE: $299 (SRP)
REQUIREMENTS: Power Macintosh, System 7.0 or later, 16MB of RAM, CD-ROM drive, color monitor



AH, MY BRISBANE: This quarter-screen scene took a few minutes to set up from a USGS map, and just less than a minute to render.

As soon as MetaTools' Bryce popped on the scene, hundreds of fantastical 3D worlds appeared, as if by Power Mac-induced magic. Now Natural Graphics, creator of Scenery Animator, has released Natural Scene Designer, with an emphasis on Natural. Sure, you could make islands floating in the sky, but isn't it more interesting to make Lake Tahoe?

Natural Scene Designer's interface is more down to earth than Bryce's. The toolbars are reminiscent of those in full-blown 3D programs, with buttons for repositioning the camera and scene, adjusting the camera's focal depth, and more. The interface is straightforward and fairly easy to follow, even for those of us who never mastered the ability to rotate 3D items in our heads. You work mainly within the Map window, which gives you a sort of topographic map of your landscape; the Camera View window gives you a low-resolution idea of the scene. You can adjust the camera's bank and pitch as well as height and position. The view updates in near real time, at least on a Power Mac 7600/120.

You can either create a fractal landscape in NSD or you can open one of the landscapes included on the CD, created with Digital Elevation Models from the U.S. Geological Survey (the entire United States is available in low-resolution format at <http://edcwww.cr.usgs.gov> in the Products and Services section).

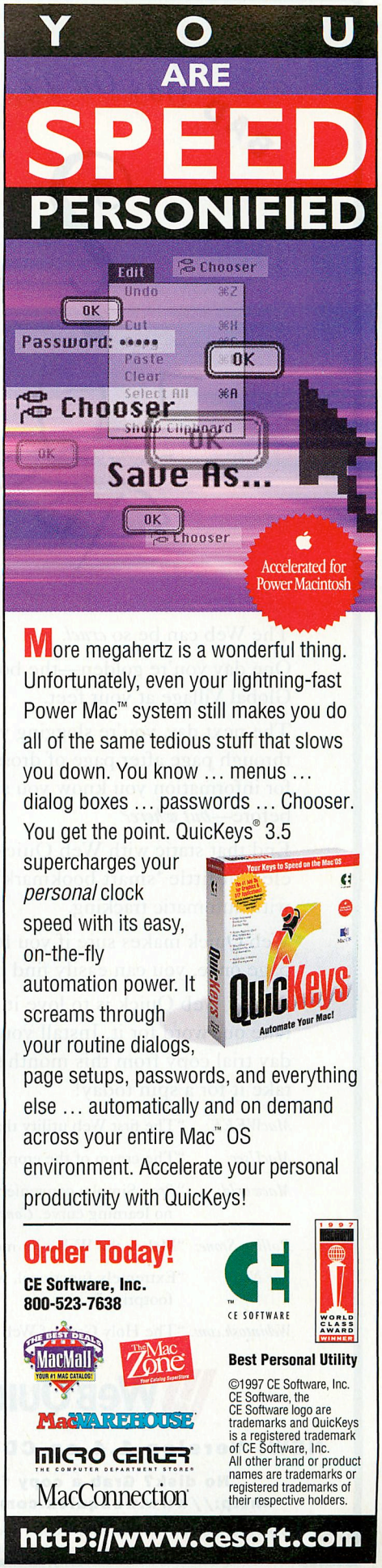
When you've settled on a camera view, it's time to render. NSD offers the option of a Quick Test, which gives you a good idea of what's what but doesn't include previews of objects or clouds, or a full ray-traced rendering. NSD *is* quick, as rendering goes—a 640-x-480-pixel image, landscape only, came out in about two minutes. If you add items, such as clouds or trees (NSD comes with models of four types of trees, which you can mix in density and fullness of leaf, and for which you can define altitude ranges), the time to render can more than double. NSD comes with a few primitive shapes, such as spheres and cones, but doesn't offer Boolean operations, so you can make an ice-cream cone but not a Pac Man shape.

However, NSD sports some very cool features that Bryce 2 doesn't. The animation abilities are terrific: Through key frames, you can move the camera or objects (or even clouds) along smooth or straight paths, with autobanking (great for those spaceship chase scenes), time control, and anti-aliasing. You can save animations as QuickTime movies, and you can import any 3DMF object, map a PICT image onto it, or export your landscape as a 3DMF object.

Speaking of 3D: With NSD you can create a QuickTime VR panorama of your scene (this requires the free tool Make QTVR Panorama, available at <http://qtvr.quicktime.apple.com>). Rendering time is longer, but the result is a 360-degree view of your scene, whether it's your favorite valley or the Marineras Trench (that's on Mars, son).

Best of all, NSD is easy enough to use that you don't have to be Raf Anzovin to put together a good-looking scene. With only a skim of the manual, we modeled a prehistoric Brisbane in 10 minutes and put together a first-person fly-through on Mars in less than an hour. Armed with a good pile of 3DMF models, you could remake the world. —*D. D. Turner*

GOOD NEWS: Easy to play with. Imports and exports to a wide variety of formats. Quick rendering. Good animation capabilities.
BAD NEWS: Stupid hardware key. Only four types of trees. No Boolean operations. No fogging.



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Available for Mac/Win95/NT4. Requires Netscape Navigator® or Microsoft Internet Explorer™.

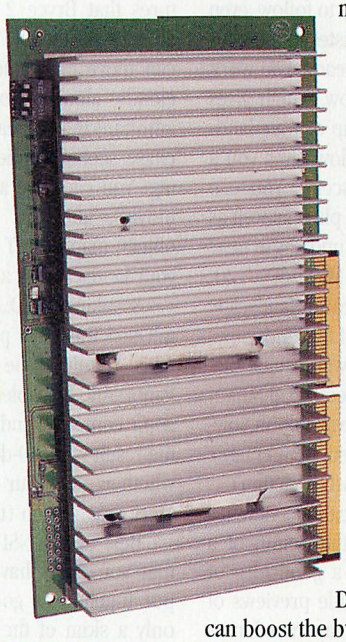
reviews

MAXpowr 604e 200MHz Processor Upgrade

COMPANY: Newer Technology
CONTACT: 800-678-3726; http://www.newertech.com
PRICE: $999; 180MHz version, $849 (street)
REQUIREMENTS: PCI-based Power Mac or clone with upgradable processor

The next best thing to a new Mac is a no-worries upgrade to your existing one. If you have a Power Mac 7500 or later, or a PCI-based clone with an upgradable processor, the "next best" is Newer Technology's 604e processor cards. Installation is the proverbial snap (as always, be careful to ground yourself first). Restart and bang—you've got a new lease on speed.

In our vintage 7500 with *no* Level 2 cache, we saw an improvement of 140 to 180 percent on basic system functions and of 152 percent on an Unsharp Mask filter on an 8MB Adobe Photoshop file, along with a 220 percent speedup of a CMYK-to-RGB mode change. Adding a 256K L2 cache cut SpeedTesters 2D graphics test times by about 12 percent. Windows pop open with a speed that makes your head snap back, and even browsing the Web is expedited; Netscape Navigator loves more CPU speed and the 32K of onboard L1 cache that the 604e boasts.



In addition, the card's Selectable Bus Timing feature lets you select your computer's bus speed. For example, some clones' buses run at 40MHz—that's the fastest that the CPU can transfer data. Setting a few DIP switches on the MAXpowr can boost the bus speed several levels, up to 60MHz. A few experiments in fine-tuning, and you should be able to squeeze the most bit-pushing speed out of your existing system.

This card works beautifully, and we've had no conflicts with any of our regular applications. The MAXpowr is a good thing in and of itself. —*D. D. Turner*

GOOD NEWS: Supereasy to install. Offers true performance boost. Stable. Variable bus speed timing.
BAD NEWS: Some L2 cache cards may not work with a faster processor. Manual could explain more.

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Radius PrecisionColor 19	$899*

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Radius PressView 17sr	$CALL
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* With purchase of video card.

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Apple Portrait Display	$399
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SuperMac Ultura LX*	$799
RasterOps Horizon 24*	$899
RasterOps Prism GT	$CALL
Radius PrecisionColor 8XJ	$499

*DSP Available

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Radius PrecisionColor Pro 24XK	$CALL
SuperMac Futura MX	$299
RasterOps PaintBoard Lightning	$CALL
SuperMac Spectrum 8	$189
PowerView/SuperView for Powerbooks	$199/$299

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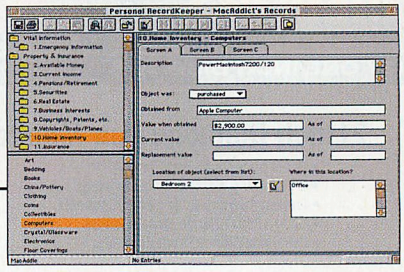
Personal RecordKeeper 4.0

COMPANY: Nolo Press
CONTACT: 800-992-6656; http://www.nolo.com
PRICE: $49.95 (street)
REQUIREMENTS: 68020 or faster of PowerPC processor, 4MB of RAM, 2MB of hard disk space, CD-ROM drive.



SIMPLE: PERSONAL RECORDKEEPER does what it says, smoothly.

Personal RecordKeeper 4.0 does just what it says—it organizes your records. It also simplifies your organization process by providing templates for seven common information groups: vital information, property and insurance, service providers, debts, secure places and things, personal items and documents, and final plans. Each main group has subcategories, with entry screens, data screens, and notes to help you track all of your personal records and property.

Still, Personal RecordKeeper is a surprisingly easy database manager. The simple interface leads you to a template which asks for your information. For example, the vehicles subcategory has entries for make, model, ID number, license, owner, and financing. If there isn't a cell for your entry, you can use the pop-up notes. If security is an issue, you can lock files with a password.

Helpful for anyone with memory problems: In the menus, you can look at category icons to see where you have and haven't entered data. You also can personalize menus and hide empty categories. Toolbar icons allow you to cross-reference categories, sort, and go to a new, first, previous, next, or last entry. Though you can't drag and drop to edit information.

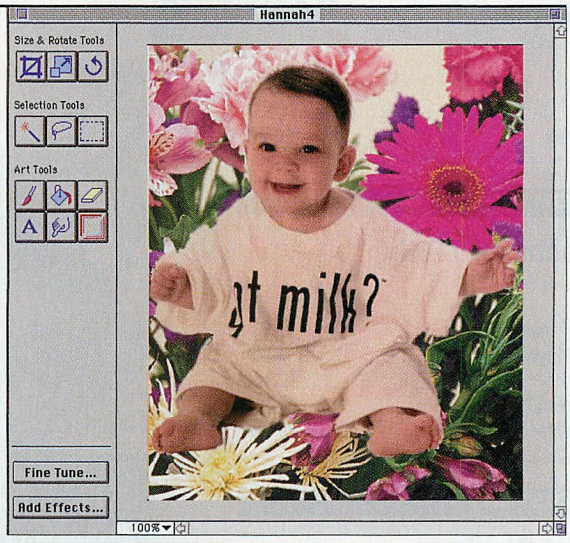
Personal RecordKeeper provides basic export options plus other file format choices for popular programs such as Intuit's Quicken. Another plus: It's easy to compile reports for home inventory, net worth, and taxes to present to your accountant or attorney.

This program may not have a big gee-whiz factor, but it does the basics well. If you're serious about organizing your records, you can't go wrong with Personal RecordKeeper. *—Angela Gillespie*

GOOD NEWS: Straightforward interface and templates make for easy information organization.
BAD NEWS: You can't drag and drop to edit information.

Connectix PhotoMate

COMPANY: Connectix
CONTACT: 415-571-5100, http://www.connectix.com
PRICE: $69 (SRP)
REQUIREMENTS: 68030 or faster, System 7.0 or later, 8MB of RAM (minimum), 256-color display, 10MB of available hard disk space, CD-ROM drive



PHOTOMATE COMES WITH A PASSEL of backgrounds, so it's easy to paste a picture.

With Connectix's PhotoMate, you can go from capturing or opening a picture to editing, correcting, or adding special effects without ever having to know what "unsharp mask" means.

PhotoMate sports a tool palette with many of the same tools found in Adobe Photoshop, including the Magic Wand, Lasso, and Paint Bucket. Online documentation makes using these tools, as well as the controls for smoothing or sharpening, altering color balance, and adjusting the exposure of images, a quick and simple exercise.

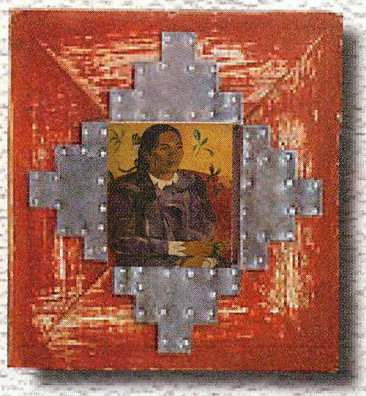
Open a picture, click on the Fine Tune button, and PhotoMate displays several examples of each adjustment. Pick the one that looks best.

The application also offers a variety of built-in effects. (A future update should accept Photoshop plug-ins.) One feature you won't find here—but is in Photoshop and Adobe PhotoDeluxe—is the ability to work in layers. Those who aren't looking to do more than add another image or two, though, will hardly miss it.

You can organize your photos by using the Photo Album, a scaled-down image database that catalogs and offers thumbnail previews. You then can create a slide show that includes text, sounds, and transition effects. The software comes with background and prop photos as well as an arsenal of sounds.

By offering some of the aspects of high-end image-editing software and making them easy-to-use—plus adding its own features, such as Slide Show View, and bundling it all with a lot of extras—Connectix puts together a great package. *—Ralph Seymour*

GOOD NEWS: Simple, easy-to-use interface. Good photo-enhancement features. A bunch of fun extras on the CD.
BAD NEWS: Can't work in layers.



"WOMAN WITH A FLOWER" *by* PAUL GAUGUIN 1891

"BALL AT THE MOULIN DE LA GALETTE" *by* PIERRE AUGUSTE RENOIR 1876

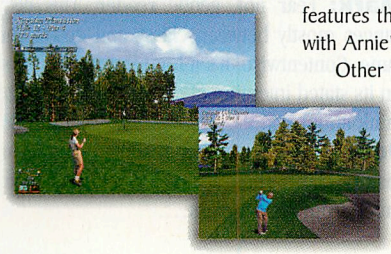
"LINKS LS MACINTOSH" *by* ACCESS SOFTWARE INC. 1997

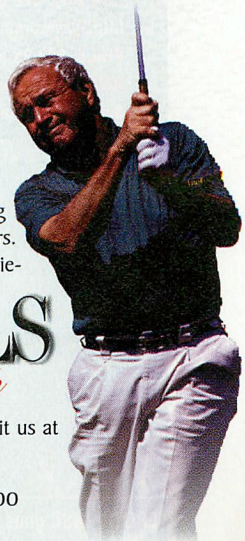
NEW LINKS LS FOR THE MACINTOSH—TRULY A WORK OF ART

Seconds after Links LS Macintosh lights up your screen you may feel compelled to frame it. With up to 16.7 million colors, nothing compares to the detail in every leaf, blade of grass, and skyscape on the newest addition of the world's most award-winning line of golf simulators.

Links LS Macintosh proudly features the Grand Master of Golf, Arnold Palmer. You'll marvel as the legendary Arnie tees off as a movie-quality 30 frame per second animation. Packed with 54 of the most beautiful holes in golf, Links LS Macintosh features the Kapalua Plantation and Kapalua Village courses in Maui, along with Arnie's home course at Latrobe Country Club, near Pittsburg.

Other features include modem/network play, fog and microtextured grass, more realistic ball-flight dynamics, 3D virtual reality tours and exclusive multimedia footage. For more information call 1.800.800.4880 or visit us at www.AccessSoftware.com. Frame not included. Requires PowerPC





LinksLS Macintosh

ACCESS SOFTWARE INCORPORATED

4750 Wiley Post Way, Bldg. 1 Ste. 200
Salt lake City, Utah 84116
801.359.2900 Fax 801.359.1273

cd-roms

DIVE! GRAND CAYMAN ■ FISCHER'S EROTIC ENCYCLOPEDIA ■ VIRTUAL TOURISM PARIS ■ YOUR PREGNANCY. YOUR NEWBORN. ■ AMERICAN SIGN LANGUAGE DICTIONARY 2.0

This month, we're going places, baby! We'll parler Français in the streets of Paris, check out a few hotels in the Caymans, even take an insider's tour of a uterus. Thanks to the ease and convenience of modern-day Macs, we'll have enough time left over for a short session on sign language and a sexy peek under the sheets of history. Could life be better? There are only two ways to find out: Buy every CD that ever hits the market or let our quick-'n'-dirty tourist guide shape your summer CD travels. Bon voyage. —*Joe Mahr*

Dive! Grand Cayman

COMPANY: Shoot to Thrill
CONTACT: 800-243-1515, http://www.scubatimes.com/ads/products/thrill.html
PRICE: $34.95 (SRP)
REQUIREMENTS: 2X CD-ROM, 68030 or later, 4MB of RAM

Don Martin produced Dive! Grand Cayman. Don Martin is affiliated with a big hotel. And, get this: Don Martin's disc, which costs 35 bucks, features that hotel. What's that smell? Perhaps, Fish!

Yep, that's the case with this disc, a glorified travel brochure that skimps on any meaningful travel information. There are a few QuickTime movies of swimming fish—because Don's also good at shooting underwater video. But that's it for diving.

The rest: tourist information, sans the information, except for two big hotels. Don lists himself as a contact for one, which boasts "all the comforts of home," but the setup for the other hotel is even better. Don isn't mentioned, but the QuickTime clip jabbers on about the greatness of "our" pool and "our" resort.

What about the dozen other hotels on the island? All you get is a name and phone number. Same with the airlines, and all the restaurants. No ratings. No addresses. No map even. Don promises better graphics and QuickTime VR in his next Dive! release, slated for Fall 1997. Maybe it'll show the resort pool in 3D.

TOURIST TRAP offers little diving, and no depth.

The Last Words:

Judy: Cheap advertorial trash gussied up in editorial finery is still cheap trash. Let this Dive! CD sink to the bottom and stay there.

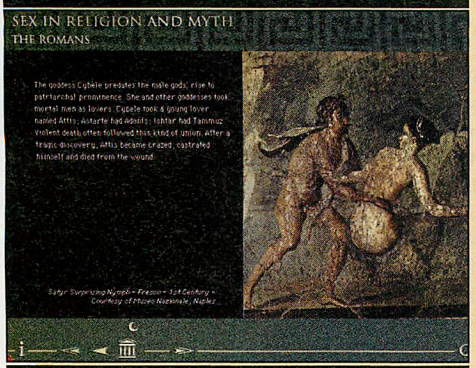
Mark: This disc is extremely lame. Splicing a 30-minute video into a bunch of randomly arranged screens, this is basically a lame version of the sort of documentary you'd pick up in a video store for 10 bucks.

Joe: Advice to Don: When mailing the CDs to reviewers, don't include info on how sellers can mark up the price from $13 (wholesale) to $35 and make a bundle. We frown on price gouging.

FIND A DEMO of Virtual Tourism Paris on The Disc.

Fischer's Erotic Encyclopedia

COMPANY: Dreamcatcher Interactive
CONTACT: 416-638-5000, http://www.dreamcatcherinc.com
PRICE: $29.95 (street)
REQUIREMENTS: 2X CD-ROM, System 7.1 or later, 68040 or faster, 8MB of RAM



EROTIC DISC goes down on history with sexy appeal.

Go ahead. Get the giggles out of your system. Sure, this disc has enough nude pictures to fill a junior high locker room, but most of the images are relatively tame and generally quite educational. Trust us, you've never seen Roman sculptures quite like this before.

Strip the disc of its pics, however, and you'll learn about the steamier side of history: An Egyptian pharaoh sold his daughter into prostitution to finance his pyramid; Aristotle was ridden and whipped by women while crowds cheered them on; Cleopatra married two of her brothers. No doubt you'll be the hit of your next dinner party/orgy.

But the disc doesn't deliver on all its promises. The "600 positions of love" category advertised on the disc jacket shows only a handful of positions. And, though the interface is well linked throughout the disc, a slide-show mode or keyboard navigation would have been good additions—clicking through hundreds of screens takes its toll on the mousing hand. Still, sex doesn't get any safer than this.

The Last Words:

Judy: The cursor symbol is an ankh, the joining of the male/female symbols—clever. Historical points include about everything from ritual and eros to the "cut-sleeve" syndrome.

Mark: Fear not, gentle reader: This disc ranges mostly between classy and downright tame. Contentwise, it's a fun read and delivers on its stated intention of changing the way you think about sex.

Joe: I don't remember reading this stuff in history class. Then again, I don't remember much from history class....

Virtual Tourism Paris

COMPANY: 3ème Vague
CONTACT: http://www.virtualTourism.com
PRICE: $74.95 (SRP—includes shipping and handling from France to the United States)
REQUIREMENTS: 2X CD-ROM, System 7.1 or later, LC475 or faster, 8MB of RAM (12MB for Power Mac)

Does drinking gourmet coffee remind you of that romantic weekend in Paris that you could never quite afford? Well, perk up the International Flavors, take a seat at your Mac, and watch your dream vacation become virtual reality with 3ème Vague's gorgeous QuickTime VR tour of the City of Love.

Take a walk down the Champs-Élysées and twirl around to see the shops on both sides of the wide, tree-lined street. If one of the shops catches your eye, you can zoom in for a closer view, though the sights get blurry fast. If you're curious about any of the city's attractions, you can click on them to learn more—some sites even sport QuickTime clips, though they're not the greatest quality.

You won't get lost on your trip as clickable arrows point you to the next stop on your tour of the 250 Parisian hot spots shown on the disc. Impatient travelers can switch to a map to be beamed anywhere in the city, or scroll the index for a guide to a wide selection of shops, cafes, and tempting tourist locales.

VOILÀ! THE NEXT best thing to being there.

The Last Words:

Judy: Great use of QuickTime VR; a little hard to navigate sometimes, but overall a most delightful afternoon visit to Paris.

Mark: This is supercool! A simple but elegant concept, superbly executed. Now I wonder why it took so long for somebody to think of this. It's a stellar use of QuickTime VR and a fabulous asset for soon-to-be tourists.

Joe: The disc was so detailed my girlfriend was able to pinpoint the park area under the Eiffel Tower where she passed out one night.

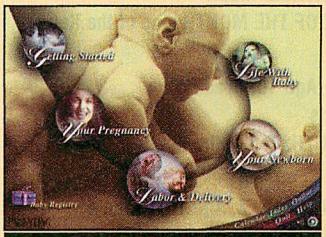
Your Pregnancy. Your Newborn.

COMPANY: *Parenting* magazine
CONTACT: 800-856-1351
PRICE: $39.95 (SRP)
REQUIREMENTS: 2X CD-ROM, System 7.0 or later, 68040 or faster, 8MB of RAM

The editors of *Parenting* magazine bring you this no-nonsense pregnancy primer, which tells you everything about birthing babies and beyond, whether it's tips on how to get pregnant or guidelines on what to do once you are. This disc covers working mothers' rights, provides lists of advocacy organizations, and lists essential questions (that you can print) to ask doctors during each stage of pregnancy.

This well-researched parenting how-to struts its stuff. Unlike other pregnancy titles, it doesn't pander for attention with campy games and off-tangent sex talks. Viewing this disc, is like, well, reading *Parenting* magazine.

Although there are QuickTime and audio clips, most information is gleaned by clicking, scrolling, and reading. Scouring the info, even though it's well classified, gets downright tiring. But when you're preparing for a key life event, this title's thorough if unimaginative interface beats a slick-yet-superficial peer any day of the trimester.



MOTHER'S LITTLE HELPER takes the pain out of parenting.

The Last Words:

Judy: A clear interface and tolerable tone make this disc a winner, though the plain scrolling text dumps on the disc's potential.

Mark: Well done. Unlike The Girlfriend's Interactive Guide to Pregnancy (Apr/97, p78), it manages to be cute and supportive without being rankly condescending.

Joe: This disc's lack of multimedia almost puts it in the "buy-a-book" category. But there are just enough redeeming extras to make it a smart buy.

The American Sign Language Dictionary 2.0

COMPANY: Multicom Publishing
CONTACT: 800-850-7272, http://www.multicom.com
PRICE: $49.95 (SRP)
REQUIREMENTS: 2X CD-ROM, System 7. or later, 68040 or faster, 12MB of RAM

There couldn't be a better way to demonstrate sign language (other than live and in person, of course) than on CD-ROM, and there isn't another disc on the market that does it to the letter like this one.

Advanced sign students looking for a quick fix on a forgotten phrase can easily brush up on any of the 2,600 signs in American Sign Language (ASL) with video illustrations. Beginners, however, may want to start out at the finger-spelling section, where you learn to sign the names of your loved ones letter by letter. After mastering the ABCs of ASL, you can move on to the dictionary where whole words are defined and demonstrated.

If your fingers get tired from doing all the talking, you can take a break and let the disc take over with a crash course on the history behind the silent language. Learn that schools barred its teaching from the 1880s until the 1960s—thanks in part to Alexander Graham Bell. (Does anybody smell a conspiracy here? Get Oliver Stone.)

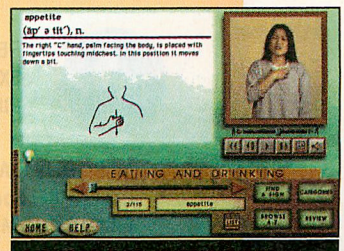
Although loaded with clear demonstrations and historical trivia, this disc is not an official how-to; you can't plop it in and click up lessons to guide your learning. Sign language students will, however, find this visually appealing reference tool the ideal companion to any full-fledged course.

The Last Words:

Judy: I am fascinated with communication, and ASL has always been on my top five list of Languages I'd Like to Learn. This disc had me practicing and wanting a concentrated course.

Mark: This is one of the rare occasions when the CD-ROM format makes perfect sense. Every sign is illustrated with a video demonstration, and the variable speed and size of the video clips is a thoughtful gesture.

Joe: It would be nice, with the next version, to include lesson plans for the intellectually impaired, like myself.



SIGNS, SIGNS, EVERYWHERE there are signs—and videos.

Kidz Stuf

Brisbane Elementary School Mac fanatics rate this month's children's software.

CATCH A DEMO of NumberMaze Challenge on The Disc.

My First Amazing Words & Pictures CD-ROM Activity Pack

COMPANY: DK Multimedia
CONTACT: 800-DKMM-575, http://www.dk.com
PRICE: $29.95 (street)
REQUIREMENTS: 2X CD-ROM drive, System 7.0 or later, 6MB of RAM

Literary loners who love to settle down with a good dictionary on a hot summer's night will love DK Multimedia's new activity pack. The kit comes with colorful flashcards, stickers, an activity book, and an animated dictionary that's loaded with cross-references to definitions of words within definitions. The disc also offers three games to get kids playing with words. Too bad kids just aren't that lonely yet.

"HEY, KIDS, LOOK, I got you a...dictionary."

GOOD FOR GRADES: Preschool to 2

LIKES: "If I were younger, I would like the part where you got to spell the words." ▪ **Amanda**

"I liked the way you could look up things." ▪ **Justin**

DISLIKES: "There's not really a lot of words in this program, and there's not so many hard words in the dictionary." ▪ **Daniel**

"When they write the letters, they sound like they're scratching a chalkboard." ▪ **Hilary**

SOUND ADVICE: "I would never just start up the program to look up a word; I would, though, for a vocabulary list or spelling list." ▪ **Hilary**

FINAL REPORT: It's hard to get excited about a dictionary.

Meet the players...

TRACI NOWAKOWSKI, Age 9, Grade 4
EXPERTISE: Music
PICK OF THE MONTH: Top of the Key

AMANDA OLSON, Age 10, Grade 4
EXPERTISE: Sports
PICK OF THE MONTH: Top of the Key

JUSTIN PEREZ, Age 10, Grade 4
EXPERTISE: Computers
PICK OF THE MONTH: Top of the Key

DANIEL LAM, Age 10, Grade 5
EXPERTISE: Math
PICK OF THE MONTH: Pirates: Captain's Quest

BRIAN SCHROEDER, Age 10, Grade 5
EXPERTISE: Music
PICK OF THE MONTH: Top of the Key

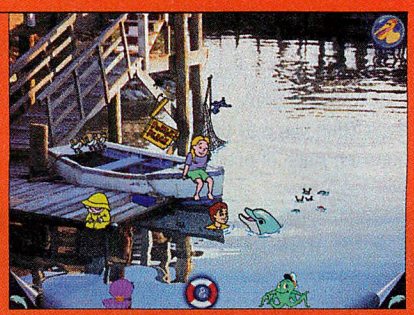
HILARY WALDO, Age 10, Grade 5
EXPERTISE: Soccer
PICK OF THE MONTH: Top of the Key

REBECCA WALDO, Age 10, Grade 5
EXPERTISE: Acting
PICK OF THE MONTH: Top of the Key

MARC OLIVA, Age 10, Grade 5
EXPERTISE: Sports
PICK OF THE MONTH: Pirates: Captain's Quest

Flipper

COMPANY: Brainstorm
CONTACT: 888-4BRAINSTORM, http://www.brainstormfun.com
PRICE: $29.95 (street)
REQUIREMENTS: 2X CD-ROM, System 7.1 or later, 68040 or faster, 6MB of RAM


SO-SO STORYBOOK merely serves its porpoise.

Mary Poppins was a great movie. *Toy Story* was a great movie. *Flipper* was... OK—kind of like the CD-ROM that's based on it. Kids hear Flipper's tale read aloud as they explore the interactive storybook's animated clickables, some of which hide extensive movie clips and detailed encyclopedia-style creature features. Four added activities try to keep kids busy both onscreen and off. Unfortunately, kids just aren't interested.

GOOD FOR GRADES: Preschool to 5

LIKES: "It was based on a good movie." ▪ **Rebecca**

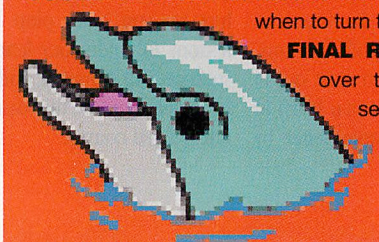
"When you click on something, it does something mad, weird, funny, cool, surprising, and a lot more stuff." ▪ **Brian**

DISLIKES: "It took a very long time to get to the next page." ▪ **Justin**

"Most of the program is about the story, except the activities, but the graphics aren't like in the movie." ▪ **Daniel**

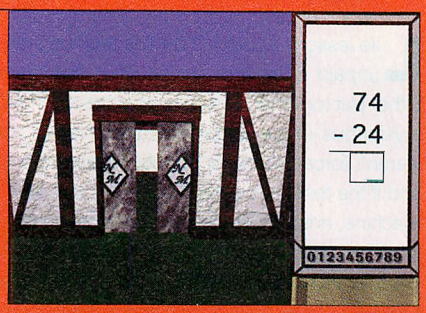
SOUND ADVICE: "In Read to Me mode, make it let you decide when to turn the page." ▪ **Hilary**

FINAL REPORT: If your kids flipped over the movie, they've probably seen enough.



NumberMaze Challenge

COMPANY: Great Wave Software
CONTACT: 800-423-1144 ext. 222, http://www.greatwave.com
PRICE: $49.95 (SRP)
REQUIREMENTS: 2X CD-ROM drive, System 7.0 or later, 68030 or faster, 8MB of RAM



LOW-BUDGET GAME amazes the royal students while teaching them real math values.

Kids with a love for lurking about will find themselves right at home as they wander through the king and queen's royal maze answering math problems. In order to advance through any entryway and get closer to the castle's royal treasury, challengers must answer three math problems correctly every time. A random word-problem generator allows for a virtually endless supply of story problems for curriculum levels from kindergarten through sixth grade. Each grade level offers about 35 to 50 more subject levels—enough math to keep all the royal subjects counting their way toward treasure.

GOOD FOR GRADES: K to 6

LIKES: "I like the mazes, because they were fun to try to figure out which way to go." ▪ **Traci**

"I liked it because little kids can learn a lot from it. It can help their counting skills." ▪ **Marc**

DISLIKES: "I did not like the way the person ran into the walls when you clicked too much." ▪ **Justin**

"The maze is too easy, and when somebody talks, they talk for a really long time." ▪ **Daniel**

SOUND ADVICE: "I would love one with fractions." ▪ **Hilary**

FINAL REPORT: Helps kids open new doors with math.

Freddi Fish and Luther's Water Worries

COMPANY: Humongous Entertainment
CONTACT: 800-499-8386, http://www.humongous.com
PRICE: $14.95 (street)
REQUIREMENTS: 2X CD-ROM drive, System 7.0 or later, 25MHz 68040 or faster, 8MB of RAM

Freddi Fish and Luther aren't out to solve any adventure-laden mysteries in this soaked-up spinoff, but kids will wish they were as they quickly tire of slinging bubbles and eating worms. Kids burst bubbles with their slingshots and eat a required amount of worms before the draining water dries up the wiggling critters. Their reward? More of the same on levels that look exactly the same. Even Pavlov's dog wouldn't drool over this repetitively lame game.

GOOD FOR GRADES: Preschool to 4

LIKES: "I liked when the fish and turtles came out of the bubbles, and that's really all." ▪ **Justin**

"The graphics were cool, and little kids would like the voices." ▪ **Hilary**

DISLIKES: "You can't change your weapons, and most of the game you just get worms and shoot bubbles." ▪ **Daniel**

"All you did was shoot bubbles for worms. You should have more to do." ▪ **Marc**

ONE-TRICK GAME will only burst your wormy bubbles.

SOUND ADVICE: "Make different games and actually make the higher levels harder." ▪ **Rebecca**

FINAL REPORT: Fish worries hold water—underage arcade game gets old fast.

Top of the Key: The Slam Dunk Typing Teacher

COMPANY: Time Warner Electronic Publishing
CONTACT: 800-510-1791, http://pathfinder.com/twep
PRICE: $29.95 (street)
REQUIREMENTS: 2X CD-ROM drive, 68040 or faster, 8MB of RAM

You don't have to be tall to be named most valuable player in Top of the Key—you just have to be quick at the keyboard. The National Basketball Association meets fifth-period typing in this innovative approach to teaching kids (and adults) how to type. Learn four keystrokes at a time and put them into practice in a variety of drills that have you passing, slam-dunking, shooting down exploding basketballs, and dribbling across the keyboard in full-court gameplay. At the end of each wrist-wrenching drill, check your accuracy and speed stats to see how you scored.

GOOD FOR GRADES: 3 and up

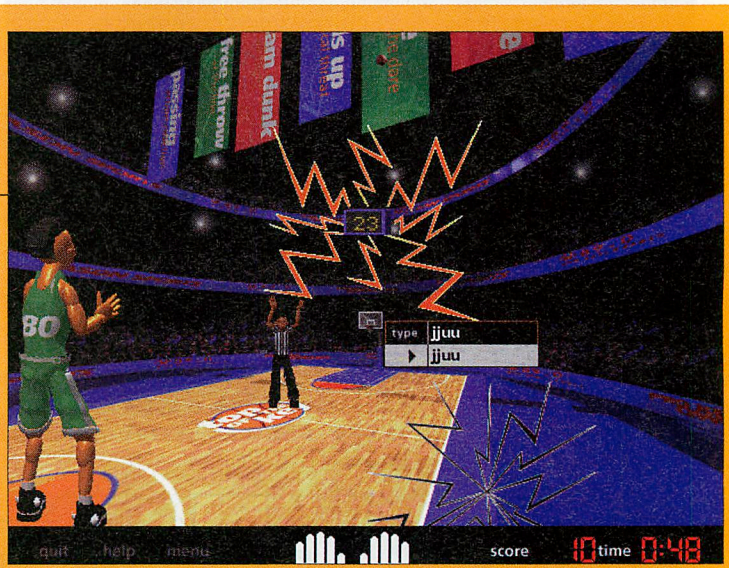
LIKES: "After this review, I've gotten better at typing." ▪ **Brian**

"There are a lot of games to play, and since they're cool, you want to type." ▪ **Hilary**

"Kids can learn how to use keyboards easier while having fun." ▪ **Marc**

DISLIKES: "They did not give you very much time to type. I did not like the way the guy in the stands said, 'Airball!'" ▪ **Justin**

"There's not really a lot of action, like in a real basketball game. This is just like in practice." ▪ **Daniel**



HIGH-SCORING Top of the Key makes for top-of-the-line typing teacher.

SOUND ADVICE: "I would improve the ref's voice. It sounds very weird, and he talks too much." ▪ **Amanda**

FINAL REPORT: This typing tutor shoots and scores.

Pirates: Captain's Quest

COMPANY: Discovery Channel
CONTACT: 800-678-3343, http://multimedia.discovery.com
PRICE: $29.95 (street)
REQUIREMENTS: 2X CD-ROM drive, System 7.0 or later, 68030 or faster, 8MB of RAM

Much to the dismay of swashbuckling students, pirates often get short shrift from teachers who would rather cover events such as the Boston Tea Party than the lifestyle of colorful thieves. Captain's Quest however, delves into the dark side of history by placing you at the helm of a ship and sending you on a quest to sink or plunder a ship, steal silver, and gather enough dirt for that killer book you'll write when you finally lose your sea legs.

GOOD FOR GRADES: 5 and up

LIKES: "I liked how you get to be the captain of the ship." ▪ **Traci**

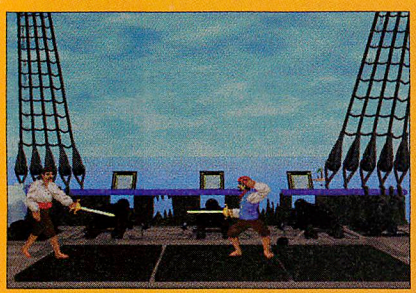
"I liked when you clicked on the rats and they blew up." ▪ **Justin**

DISLIKES: "I just wish this would involve some science, just a tiny bit of science." ▪ **Brian**

"If you get in a sword fight and die, you fall on the ground dripping blood. It was really disgusting." ▪ **Hilary**

SOUND ADVICE: "Make it so you can talk to your men when you want to." ▪ **Daniel**

FINAL REPORT: Calling all pirates. Your ship has finally come in.



WANNABE PIRATES do or die as they race for the silver, plundering ships along the way.

Life Science Mysteries: Beyond the Naked Eye

COMPANY: Corel
CONTACT: 800-772-6735, http://www.corel.com
PRICE: $39.95 (SRP)
REQUIREMENTS: 2X CD-ROM drive, System 7.1 or later, 68030 or faster, 8MB of RAM

Life lessons shouldn't be this tedious until you're forced to take an unpaid internship during your final years of college. Your job: Either put together a visual presentation on AIDS or find the cause of a mysterious jungle epidemic. Either mission could be fascinating, if you weren't forced to do all of your research in a sterile, white-walled lab and if the research weren't so much like, well, research. Check the fax machine, answer the phone, scour the library, take notes...after all this work, you deserve a paycheck and a pension plan.

GOOD FOR GRADES: Too dull for children of any age.

LIKES: "They have a tour and a learn zone where you can look up things." ▪ **Hilary**

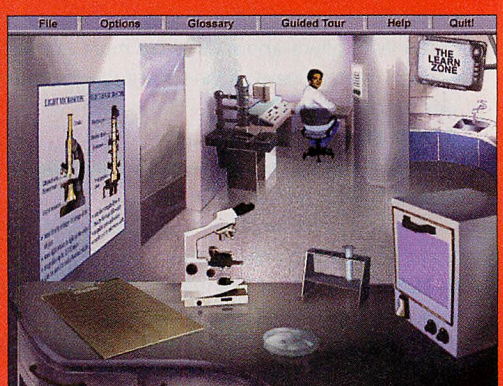
"I liked the graphics and all of the rooms." ▪ **Justin**

DISLIKES: "It is sort of hard to understand the people." ▪ **Marc**

"I did not like much. This game is for people who really like science or for teachers." ▪ **Amanda**

SOUND ADVICE: "Make the graphics a little bit badder so the program could run faster." ▪ **Daniel**

FINAL REPORT: Rats would have more fun in this lab than kids will.



LIFELESS SCIENCE missions barely sound a pulse.

Grammar Rock

COMPANY: Creative Wonders
CONTACT: 800-KID-XPRT, http://www.cwonders.com
PRICE: $39.95 (SRP)
REQUIREMENTS: 2X CD-ROM drive, System 7.0 or later, 25MHz 68030 or faster, 2.5MB of RAM

Grammar Rock takes all your childhood grammar pals and moves them into a small town where they host games based on their songs. Play with an adverb machine, unpack your adjectives, and bridge a gap with prepositions to win Rocky coins that are good at the local arcade. Adults, however, will want to skip the arcade and click right on the video rewards—the animated shorts sung in their entirety, just the way you remember them.

GOOD FOR GRADES: 3 to 5; adults

LIKES: "I liked the games. I liked the voices and the way Rocky looked." ▪ **Justin**

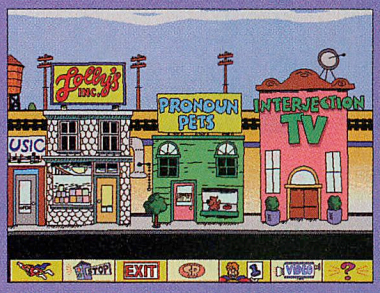
"I absolutely got hooked on their theme song, and I also got first place in the arcade games." ▪ **Hilary**

DISLIKES: "There are only two arcade games, and you need two Rocky coins just to play once." ▪ **Daniel**

"I did not like the main character because he had a weird voice and looked weird." ▪ **Amanda**

SOUND ADVICE: "Maybe a bit of less-serious and more-playful characters." ▪ **Hilary**

FINAL REPORT: Grammar rock is a well-rounded chip off the schoolhouse block.



DISC ROCKS with retro teaching tunes.

What the Adults Thought

"Why didn't they have this when I was a kid?" That's what everyone around the office is saying about Time Warner's new typing CD-ROM, Top of the Key: The Slam Dunk Typing Teacher which takes your brainless, boring typing class and slam-dunks it into the 20th century. In high school we learned to type by copying numerous business letters, envelopes, essays, and paragraphs. Top of the Key leaves the office behind. Kids (and adults) fire away at basketball bombs while painlessly increasing their speed and accuracy, four simple keystrokes at a time. Effective and fun, this sporty tutorial had both kids and adults off the bench and jumping for their turn at the keyboard.

"I'm glad they *didn't* have this when I was a kid."

Although the kids gave a spiffy thumbs-up to Great Wave Software's NumberMaze Challenge, we adults quickly tired of the plodding gameplay, low-budget production values, and annoying animals. The slow succession of word problems made a flashcard-flipping race around the classroom sound positively new wave. But at least the little company can blame its crude graphics and poky gameplay on its small company budget. What was Corel's excuse? —*Nikki Echler*

FREE Software

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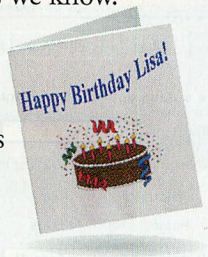
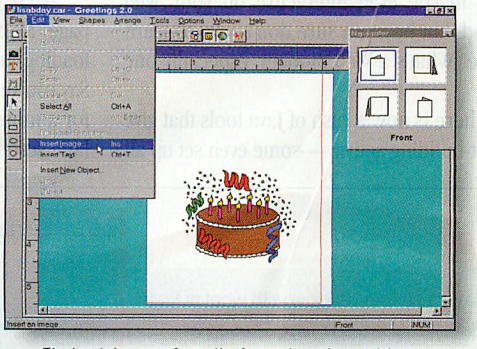
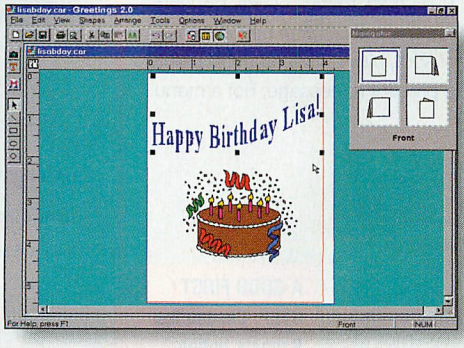


SYSTEM REQUIREMENTS: Greetings 2.0 for Windows requires an IBM® or compatible PC, 4MB RAM, Microsoft® Windows 3.1, Windows NT 3.5 or later, or Windows 95, and 6MB hard drive space. Mouse required. **Greetings 2.0 for Macintosh** requires System 7.0 or better, 8MB RAM, an 11-inch monitor or larger (Powerbook monitor ok) and 5MB hard drive space. All CD-ROM versions requires a CD-ROM drive. Shipping charges are non-refundable. Copyright © 1996 Parsons Technology, Inc. All rights reserved. Greetings is a trademark of Parsons Technology, Inc.



First, pick your favorite format and graphics.



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how to

how to make a Java applet

Make your Web page rock and roll, jump and shake, quickly and easily.

FIND THE FREEWARE AppletAce on The Disc.

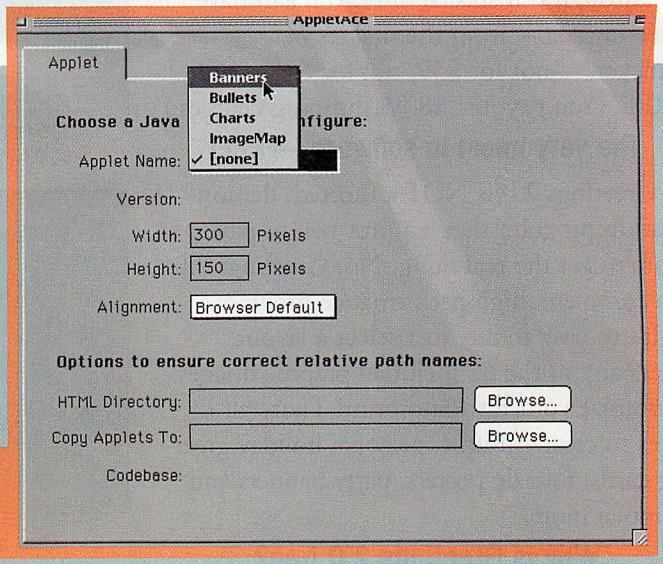
So you've run through your repertoire of animated GIF tricks, you're allergic to plug-ins, and yet you still want to do something kicky and maybe even interactive on your Web page. Java sounds good, but boy, you sure don't want to learn a new programming language. What's a Web pioneer, especially one with modest goals, to do?

As there was with HTML, there is now a rush of Java tools that give more or less WYSIWYG applet-building activity—some even set up all the proper file structures and put together a Web page in which you can show off your applet.

We're going to use one free tool to make a simple applet for a Web page. Macromedia's AppletAce is on The Disc and is free for downloading at <http://www.macromedia.com/software/powerapplets>. Say you've got a band, and you've got the urge to make a title sequence for a more videolike experience. AppletAce will allow you to create a little scrolling title, complete with fancy fade-ins and fade-outs.

STEP 1 Get Started

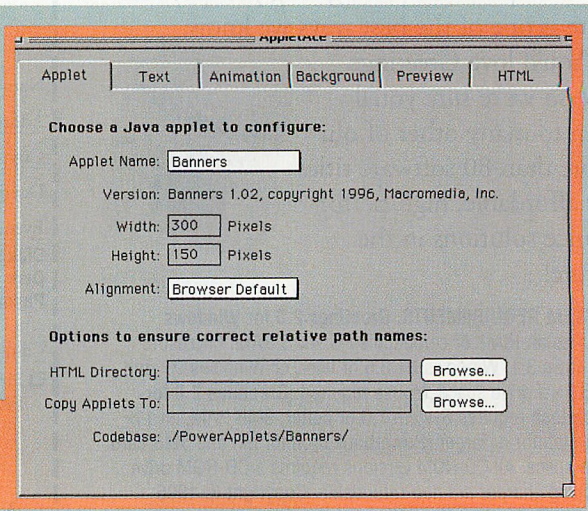
Upon launch, AppletAce displays a simple window with what at first may seem a few too many blank areas. Don't fear. These Height, Width, and Directory questions will be useful later. For now, concentrate on the Applet Name pull-down menu. Select Banners. AppletAce can also make image maps that perform neat graphical tricks when your mouse hits a hot spot, plus animated bullet points and basic charts, but we want to present a message, not a menu.



A GOOD FIRST STEP: Choose the Banners option.

STEP 2 Set Basic Variables

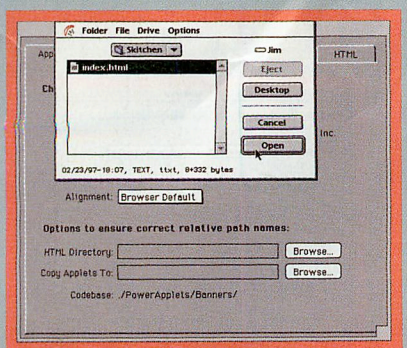
Now AppletAce can get down to business. You'll see a whole slew of tabs across the top of the window. Clicking the Applet tab brings you to the workspace where you set basic parameters, such as the height and width of the banner and how the browser will align the applet within the window. Set Height to 150 pixels and Width to 300 pixels, and leave Alignment at Browser Default. These settings give the applet enough room to display what we want it to, and they also fit well into the average Web browser's window (if you have to assume the size of a viewer's window, assume that 640 x 480 pixels is the maximum). Leaving the Alignment setting at Browser Default prevents AppletAce from adding an alignment tag that may not be supported by the user's browser.



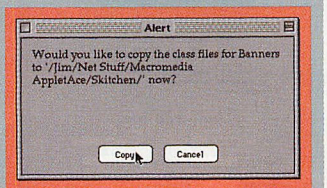
SIZE MATTERS: A 300-x-150-pixel banner will fit well in the average browser's window.

STEP 3 Set Trickier Variables

In the same *window*, AppletAce gives you the option to enter HTML Directory and Copy Applets To information. The former is the folder into which you will place files containing the HTML for your site. For example, if you create a Web page for a band named Spanish Kitchen, you might name the folder Skitchen, with a file called index.html (browsers always look first for a file called index.html unless told otherwise) in that folder. (With AppletAce, you must create a file—in this case, index.html—to hold the applet *before* you create the applet.) Hit the Browse button, and find and select the index.html file within the Skitchen folder. Repeat this process for the Copy Applets To option, which will place the "class" files (the resources your applet will need in order to work) into the correct directory. To get an applet to work, you must be meticulous about your relative paths; the basic HTML code actually calls a whole slew of class and image files, and if they aren't where they're expected to be, your applet will break.



SET UP the folders for your site.

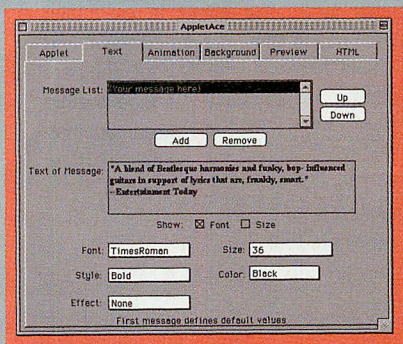


STORE THE CLASS files correctly.

STEP 4 Enter Text

Here comes the creative stuff. Click the Text tab—you'll see two windows, one for the Message List and one for the Text of Message. You can assign various actions to different pieces of text, and the Message List helps you keep tabs on which piece is doing what.

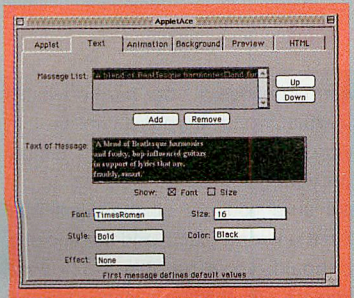
To begin, type in the text you want to appear first, say a glowing review to introduce the band. Via the attributes' pull-down menus, set Font to TimesRoman, Style to Bold, Effect to None, Size to 36, and Color to Black. You can choose other combinations, but if you get too fancy with embossing and shadowing and all that, people won't be able to read the text.



MAKE THE WORDS: Here's where you say what you have to say.

STEP 5 Edit Text

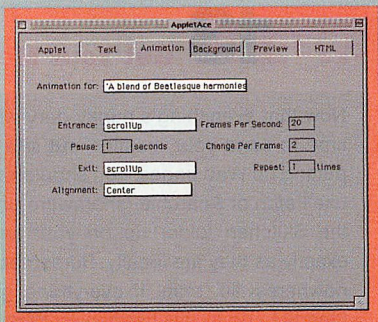
Click the Preview tab to see—take a guess—that's right, a preview of your applet so far. You'll notice that all the text scrolls in one big line across the 150-x-300 pixel area; AppletAce doesn't wrap words to your applet window size. So, go back to the Text workspace and manually insert returns to force the text to wrap. This will take some trial and error, but it'll work. In this example, returns should go after "harmonies," "guitars," "are," and "smart." Notice that the Message List automatically takes your text as the name of this piece of text. (You can, however, change the name.)



MAKE IT JUST SO: AppletAce won't wrap text, so you have to do it manually.

STEP 6 Do Interesting Stuff With Text

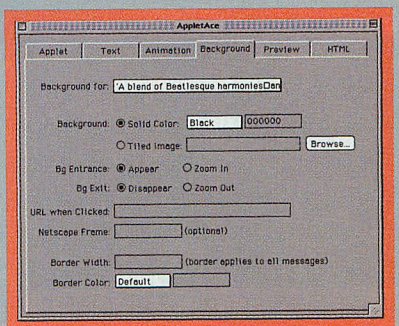
Click the Animation tab. Here you can play with the way text enters the screen, how quickly it moves, where it goes, and the number of times it does this. You may set Entrance and Exit in any combination, but unless you want to emphasize the effect over the message, keep it simple. In this case, change Entrance and Exit to scrollUp to give your work that cinematic flavor of titles crawling up the screen. You can change the Frames Per Second and other settings, but the defaults work just fine.



SCROLLING ALONG: Play with the way your words move.

STEP 7 The Backup Group

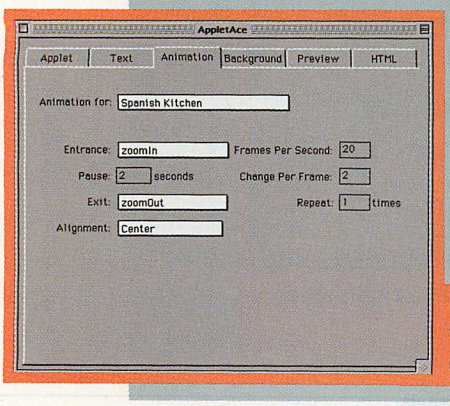
Click the Background tab to change the background color of your applet—browser gray just screams '95. You can use any GIF image as a tiled background, but let's keep it simple and classy so the text remains readable. This is a band that plays in dark, smoky bars, so select Solid Color and pull down to Black. Best to leave the Bg Entrance and Bg Exit as Appear and Disappear, for readability's sake—backgrounds zooming in and out underneath moving text can make for a mess. Now, quickly bop back to the Text workspace and change the text color to something that shows up well against black, such as Cyan. Preview your work.



COLOR IT ALL: Pick a cool background color.

STEP 8 More, More Text!

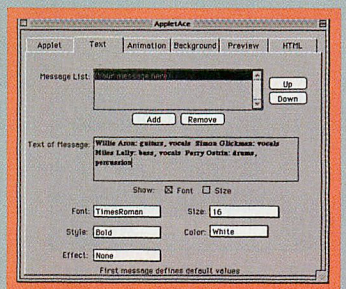
Of course, you've got to let people know who is earning these raves. Go back to Text, click the Add button, and enter the name of the band in the Text of Message box. To make the name stand out, set Font to Helvetica (unfortunately, AppletAce is limited in fonts), Style to Bold, Effect to Emboss, Size to 24, and Color to Magenta (what the heck, right?). For a dramatic effect, go to the Animation workspace and (making sure "Spanish Kitchen" shows in the "Animation for" field), choose zoomIn as the Entrance and zoomOut as the Exit so that the band's name flies right in your face. The effect is quite like the *Superman* movie titles, but it's different, and cool, and here image is more important than readability. Preview.



USE ANIMATION for a dramatic effect.

STEP 9 Still More Text

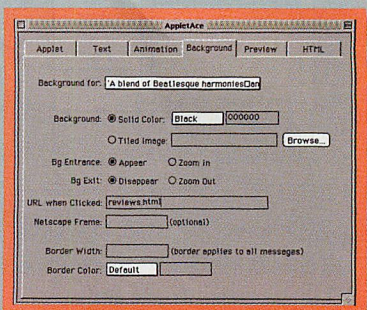
Now it's time to let fans know who the players are. Go back to Text, click the Add button, and type in the band members' names in the Text of Message box. Remember to insert the returns at desired line breaks. Make this text white, for a little extra class. Go to the Animation screen, and for both Entrance and Exit, select fade. This will give the band's credits a different feel from the other parts, and hold their identity longer on the screen. Preview.



ADD CREDIT where credit is due.

STEP 10 Adding Links

One functional advantage an applet has over an animated GIF is that you can make each piece of text link to a different URL. Say, for example, you want the review to link to a page full of positive reviews, the band's name to link to a schedule page, and the credits to become a live email to the band. Go to the Background workspace, and for each piece of text in the Message List, enter the relative path to the target page. You can do this for some, all, or none of the Message List.



LINK IT UP: Correct your applet.

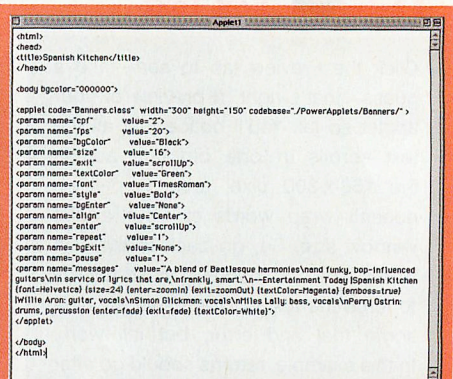
STEP 11 Deploy! Deploy!

The applet is pretty much done. Now the trick is deployment. Click the HTML tab. Yuck, what's all this? It's the HTML that goes into your index.html page in the Skitchen folder. It's not the applet itself, but it tells the browser that's viewing the applet where to find the resource files it needs and how to set various parameters (for a more thorough discussion of all this, see "Java Virtual Machines," May/97, p25). All you need to know right now is that you should click the Save... button and save this code as a text file in the Skitchen folder.

OOOH! The raw HTML.

STEP 12 Put It All Together

Presently, you can't cut and paste into or out of AppletAce, so you'll have to cut and paste into your HTML page from the text file you've just saved. Place this code anywhere you want. As far as page layout is concerned, you can treat it as any image (the <IMG> tag in HTML): Place it within a table, or align it as you will. Launch your browser, go to this local file (the Open File... command in Netscape Navigator), and take a look. Aw, your first applet! Isn't that precious.



IT'S ALL IN THE IMAGE: AppletAce's code can be treated just like any image in HTML.

STEP 13 Get Your Message Out

Now that everything's hunky-dory within the warm confines of your hard drive, it's time to send your creation out into the cold, virtual world. If you're familiar with putting up Web pages, you shouldn't have any problems with Java content. Simply use Fetch or Anarchie (shareware programs), or your favorite FTP program, to put the Skitchen folder up on your server—make sure you get all the class files exactly as they are locally. Remember, one file in the wrong place, and the applet's nowheresville, man. If everything goes as it should, you'll be able to tell your friends to go to this happening Web page, complete with the latest technology, all for the greater glory of music (not to mention, for the greater gory of the band). Go, cat, go. —*D. D. Turner*

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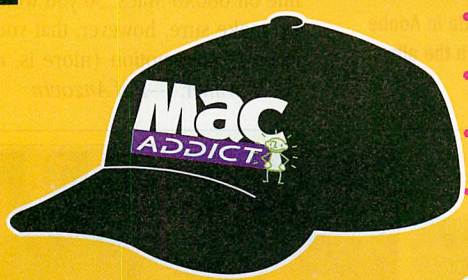
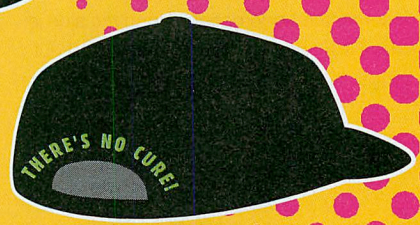
backing



FRONT



BACK

Order Form

T-shirt, short:	**$12 x Qty ___**	=	**$ ___**
T-shirt, long:	**$17 x Qty ___**	=	**$ ___**
Cap:	**$17 x Qty ___**	=	**$ ___**

Subtotal $ ___

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how to

how to make easy 3D objects

You, too, can make fun 3D scenes just by using circles and squares.

THE COMPLETED ALIEN, with a simple planet background made in Adobe Photoshop. Believe it or not, we used only circles to make both the alien and its spaceship.

FIND A DEMO of Logomotion on The Disc.

Time to make that Father's Day card. You want a distinctive look this time. What about 3D? Too hard? Too expensive? Not at all. Logomotion from Specular International (800-433-7732, http://www.specular.com) is a full-featured, easy-to-use 3D program that costs about $99 (street) and lets you make a happy, friendly green alien out of nothing but spheres. That's right: no lathing, extruding, Booleans, NURBS, texture maps, bump maps—just little colored spheres.

We'll also show you how to use Logomotion's duplicating and linking tools to create seemingly complex arrangements of objects quickly and easily—about as easily as putting beads in a box. Finally, you'll render the image with an alpha channel for compositing in a paint program. (No, no! Don't go away! This part is easy, too!) Once you've learned the techniques we show you here, you can use them to create all sorts of other images (see sidebar for ideas on what else you can do using just simple shapes).

Logomotion is unusual among Mac 3D programs in that it runs fine on 680X0 Macs. So you won't need monster hardware for this. Do make sure, however, that you've got at least 8MB of RAM allocated to Logomotion (more is, of course, better) and access to a color printer. —*Raf Anzovin*

STEP 1 Make a Sphere

1. Open a new document in Logomotion. Along the side is a simple tool palette. Click and hold the "T" tool to pop out a menu of three things: the type tool, a cube, and a sphere.

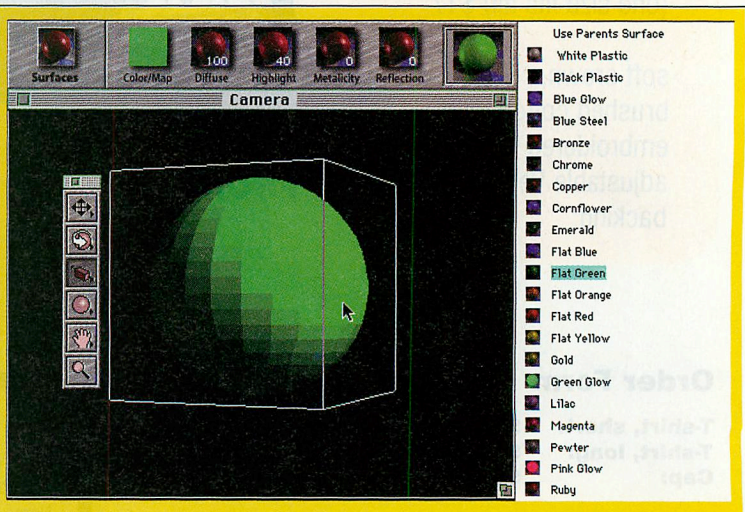
2. Select the sphere, then click anywhere in the window to place a 3D wireframe sphere at that point.

3. Wireframes don't tell you much, so change the sphere to a shaded view. In the upper left corner, click and hold the Stagehands icon to see a pop-up menu. Go to the bottom and select Render.

4. Now the toolbar along the top of the screen changes to offer various rendering options. Click on the Quality icon and choose Fast from the drop-down menu. You'll notice that the sphere looks strange—it's yellow but seems to be reflecting some kind of swirling background. The spheres default to a reflective gold surface. We're making a green alien, so we need to change the surface to green.

5. Click and hold the icon in the upper left corner to see the drop-down menu again. Choose Surfaces. A list of predefined surfaces drops down on the right side of the screen.

6. Select the Flat Green color chip and drag it to the sphere. The sphere turns green.



A SIMPLE START: create a green sphere.

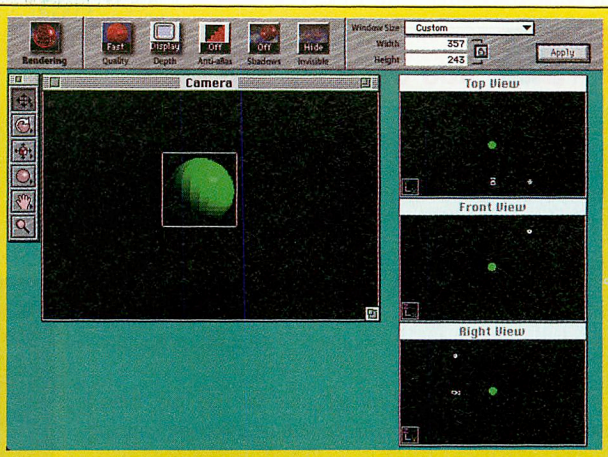
Hot Tip:
To make your own 3D logo, simply choose the "T" tool from Logomotion's tool palette and start typing!

STEP 2 Manipulate the Sphere

1. Choose the Move tool (it looks like a compass rose) at the top of Logomotion's tool palette. Click on the sphere and drag it across the screen. The sphere changes to a bounding box as you move it, and then becomes a rendered sphere again when you stop.

2. Try rotating the sphere using any of the three tools that pop out from the Rotate tool (the circular arrow) in the tool palette. A bounding box appears around the sphere when this or the Size tool is selected. Drag the bounding box to spin the sphere. (You can see the results better with an object that doesn't look the same from every angle!)

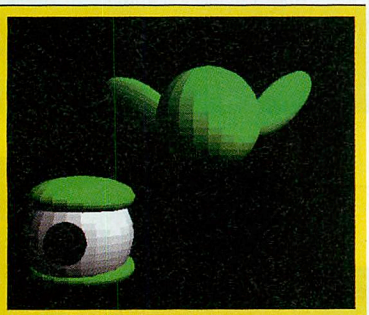
3. The Size tool, immediately below the Rotate tool in the palette, changes the sphere's dimensions. Click and hold it to see a pop-out menu, and then select the Stretch/Squash tool (the long rectangle). Stretch the sphere along any axis by dragging one face of the bounding box. The Size and Stretch/Squash tools are the most important for making the parts of a character: They turn a sphere into a rounded rod (for arms and legs and digits), a lozenge (for hands and feet), and a flat oval (for ears, nose, hair, wings, and other details).



USE SEVERAL VIEWS to see what you're doing in Logomotion's space.

4. Logomotion gives you multiple views of your workspace. The main window is the camera view, but you may choose front, top, and side views from the Windows menu. Open these views to help you position objects in the next steps.

STEP 3 Create the Head



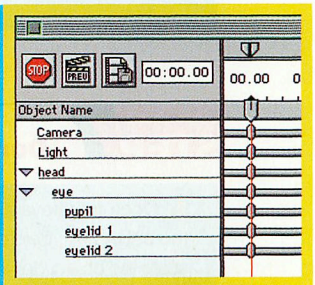
THE ALIEN'S EYE is composed of four spheres.

1. An unmodified green sphere is the basic head shape for our alien.

2. To make the ears, Option-drag the sphere to copy it, then use the Stretch/Squash tool to make the copy into a thin disk. Move the disc so that it partially intersects one side of the head—*voilà*! An ear! Once you've got this ear into Option-drag it to the other side of the head and position the copy there.

3. Next, the eyes. Place a new sphere in the scene, but this time color it white. Place another sphere in front of it, and color it black. Shrink and squash the black sphere until it fits on the surface of the white sphere. Now it should look like an eye with a pupil. Put two squashed green spheres on the top and bottom of the eye to look like eyelids.

STEP 4 Link the Parts of the Eye



HERE'S HOW TO LINK the parts of the eye in the Sequencer.

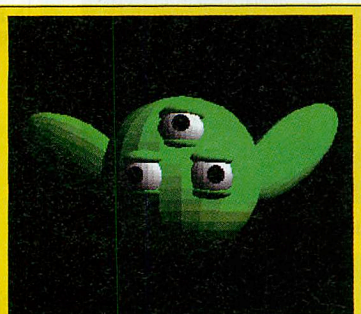
1. Although the eye looks like one object now, it's still really several unconnected pieces; if you try to move one part, the others won't follow. You must link the eye objects together so they will act as one. Logomotion allows you to "parent" one object to another, forcing the "child" object to move wherever the parent goes. A parent can have more than one child, and a child can in turn be the parent of other children. This approach lets you set up hierarchies among the objects, which is extremely useful for things such as arms.

2. Go to the Windows menu and open the Sequencer. The Sequencer window is usually used to do animation, but you'll be using it merely to link objects together. Therefore, ignore the timeline and tracks on the right side of the Sequencer, and look only at the list of objects at the left side. You should be able to see all the spheres you've put into the scene so far, and also a camera and a light (which Logomotion automatically puts there).

3. Notice that the spheres have default names such as Lathe Object 1, Lathe Object 2. You can't edit the names in the Sequencer, unfortunately, but you can choose Object Info from the pop-up menu at the upper left. A text field appears, where you may change the name of any selected object to one that makes sense—Head, Eye, Left Ear, Right Ear, and so on.

4. To link objects, drag the name of the child object onto the name of the parent object in the Sequencer. Drag the eyelid and pupil onto the eye.

STEP 5 Complete the Head



THE THREE-EYED ALIEN HEAD, complete with Perot ears.

1. Move the eye into the center of the head, and scale it to the appropriate size. Now Option-drag the eye to two other places slightly below it.

2. Use the Sequencer to link the eyes and ears to the head.

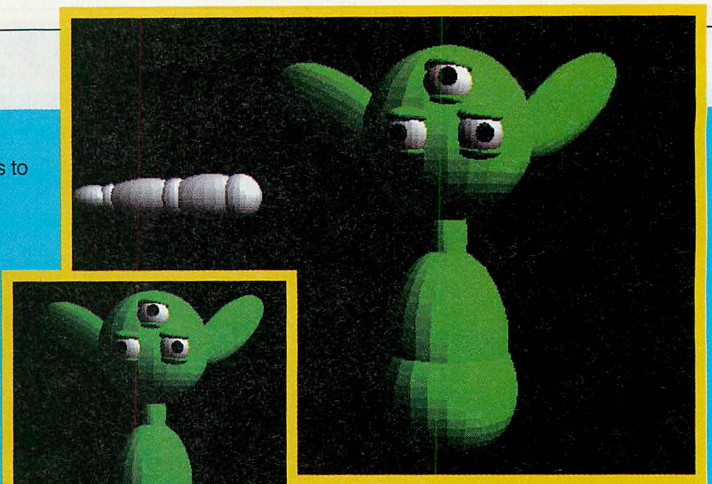
STEP 6 Add the Body and Arms

1. To make the trunk, create another green sphere below the head. Copy it, and scale and stretch the two resulting spheres to become an upper body and neck.

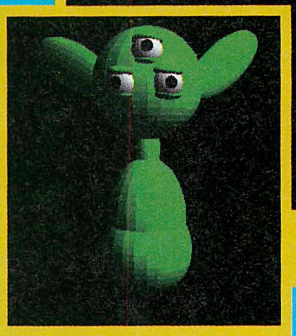
2. Because of their many joints and objects, hands and arms often are difficult to manipulate. By using a hierarchy of parents and children, you can create and manipulate arms and hands in Logomotion without too much trouble.

3. Start with a green sphere; this will be the alien's shoulder. Copy the sphere and elongate the copy, keeping one end in the center of the shoulder sphere. This sphere is the upper arm.

4. Copy the shoulder again and place it at the end of the arm to become the elbow. Repeat the process for the upper arm and elbow to create the lower arm and wrist. Then place a flat, elongated sphere at the wrist to become the hand.



THIS ALIEN has only two arms, and they aren't hard to make.



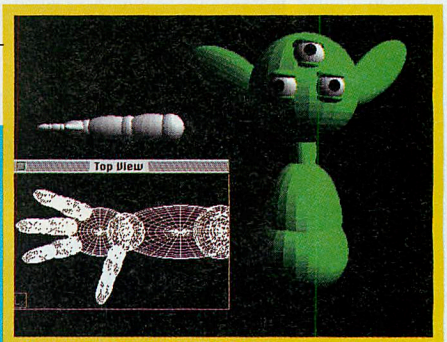
TWO SPHERES are all you need to create a body.

5. Now link the arm objects. Open the Sequencer, and drag the names of the arm objects onto each other in order from hand to shoulder. In other words, drag the hand onto the wrist, the wrist onto the lower arm, and so on. The shoulder is the top-most parent object.

6. Try rotating either the wrist or the shoulder. You'll notice that whenever you rotate a joint, only the objects farther down the hierarchy move with it—rotating the elbow moves the lower arm and the wrist, but not the upper arm and shoulder. You can maneuver the arm into any position by rotating the joint spheres. Don't rotate the upper arm or lower arm spheres themselves—you won't like the result.

STEP 7 Don't Forget Fingers

1. Once you have created the arm, it's easy to add fingers. Just copy the entire arm, delete the wrist and hand from the end of the copy, and scale the object down to finger size. Place it on the end of the hand, then copy it three times to create other fingers. Because the descendants follow the parents exactly, the fingers are usable as soon as you create them. Make the "knuckle" of each finger a child object of the hand.



TO MAKE FAST, EASY FINGERS, use small copies of the alien's arm.

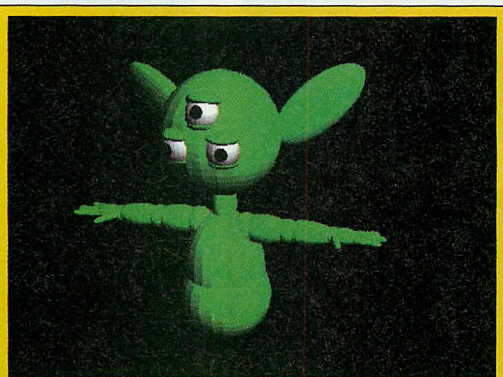
Hot Tip:

Like Logomotion's simplicity but want more power? Logomotion's big sibling, Infini-D, is out with a new 4.0 version (about $600) with an updated interface and new features like particle effects and animatable Photoshop filters.

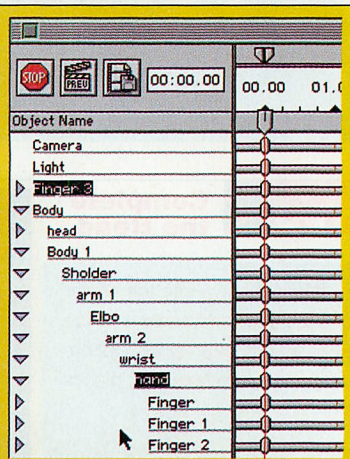
STEP 8 Assemble the Alien

1. When the hand and the arm are done, move the shoulder so that it intersects the top of the alien's trunk. The rest of the arm will follow. Copy the arm and place the copy on the other side. Rotate it so the shoulder of the copy fits into the same place on the other side of the body.

2. The alien's arm now looks a little twisted, because the thumbs of both hands are facing in the same direction. Rotate one arm along its length so that both thumbs point outward from the body.



THE COMPLETE ALIEN. All the objects are linked together.

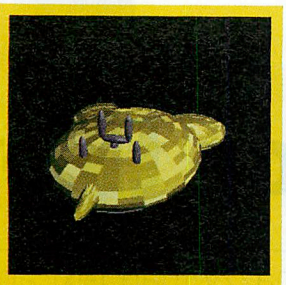


HERE'S THE ORDER for linking all the objects in the Sequencer.

3. Use the Sequencer to link the shoulders, neck, and head to the trunk.

STEP 9 Build the Saucer

1. To create the flying saucer, make a larger flattened sphere underneath the alien. Keep the default gold texture. Then make two squashed gold spheres behind the ship for fins, and one long gold one in front for a nose.



THE FLYING SAUCER, fully equipped.

2. Now create ship controls for the alien to grasp. Elongate three dark-colored spheres to create a steering gizmo. Put two others in front of it, just for show.

STEP 10 Put the Alien in the Saucer

1. Drag the alien to the saucer so his lower body just intersects it.

2. Rotate the joint spheres in one of the alien's arms until the hand comes down to the level of the steering gizmo. If the hand doesn't reach quite that far, move the gizmo closer. Curl the fingers around the control by rotating their joints. Bring the other arm up in a waving motion.

3. Use the Sequencer to link the parts of the ship to the main saucer. Also, make the alien a parent to the saucer.

4. Move and rotate the saucer around until you see an angle you like.

THE ALIEN IN THE SAUCER, before positioning. See Step 11 for the final pose.

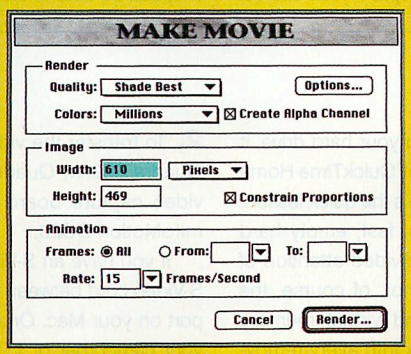
STEP 11 Render the Image

1. Go to the file menu and choose Make Movie.

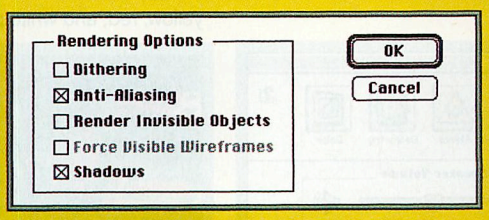
2. Set the number of colors to Millions and turn the Create Alpha Channel option on. Change the quality to Shade Best.

3. Click the Options... button. You'll see another dialog box showing the options for Shade Best. Turn on anti-aliasing and shadows, and turn off dithering. Click OK, then click Render in the Make Movie box. In the Save dialog box, change the file type to PICT, then sit back and watch your image render.

4. Now you can import your alien into Adobe Photoshop, or a paint program that supports alpha channels, and put a background behind it. Use the paint program to add text, or go back to Logomotion and create some 3D text. By now, that should be a snap!



RENDERING SETTINGS are in this box.



OPTIONAL SETTINGS appear in the Rendering Options dialog box.

THE RENDERED ALIEN, in position.

Hot Tip:

Need custom 3D buttons for your Web page? Stretch out a Logomotion sphere or cube, add type, and render it as a PICT. Use the shareware Graphic Converter to make GIF89s and the freeware GIF-Builder to make Motion GIFs.

3 Easy 3D Projects

1. Put your face on a cube.

To do this, use Logomotion's texture-mapping feature (under Surfaces). *Keys to success:* Crop out the photo's background, make the picture square, and set the background color to be the same as in Logomotion.

2. Turn an EPS image into 3D.

EPS images can be logos, clip art, patterns, even your signature. Choose Import/EPS (in the File menu), find your EPS file, and extrude or lathe it. Extrude makes thick, flat objects, like dough from a cookie cutter. Lathe makes round objects, like a table leg turned on a wood lathe.

3. Animate!

Logomotion's Stagehands—objects, backdrops, camera moves, and animated sequences—include bursting comets, spinning stars, and other snazzy effects. To make your logo spin, apply a "pan around" Stagehands camera move. You don't even have to visit the Sequencer.

how to

how to prep a movie for the Web

Here's how to create something a bit more snazzy than text and graphics.

"Wasn't that a lovely wedding? Isn't it a shame we can't share the video with all the uninvited cousins?"

"Wait, I have an idea! I'll convert highlights of the tape into QuickTime and upload the movie to my Web page. The cousins can view it there!"

Good plan, right? All the cousins can watch the wedding movie using a Mac or Windows machine. And the latest QuickTime browser plug-in plays not only movies but also audio and MIDI music files (and QuickTime VR, which lets you explore a pseudo-3D space). QuickTime movies can be much more dramatic than still photos or even animation.

But there are many pitfalls. Unless you prepare your movies carefully, your visitors won't see Cousin Cathy's vows at all. Or the file will be so enormous that no one will want to spend the 45 minutes needed to download it.

Normally, we avoid plug-in-dependent page elements. Only a small percentage of visitors have installed even popular plug-ins such as Macromedia Shockwave. But QuickTime is a different matter. It's now bundled with every copy of Netscape Navigator 3.x and will eventually become standard with Microsoft Internet Explorer, too. And unlike technologies such as Shockwave, visitors with any browser can use a helper application to play the QuickTime movie.

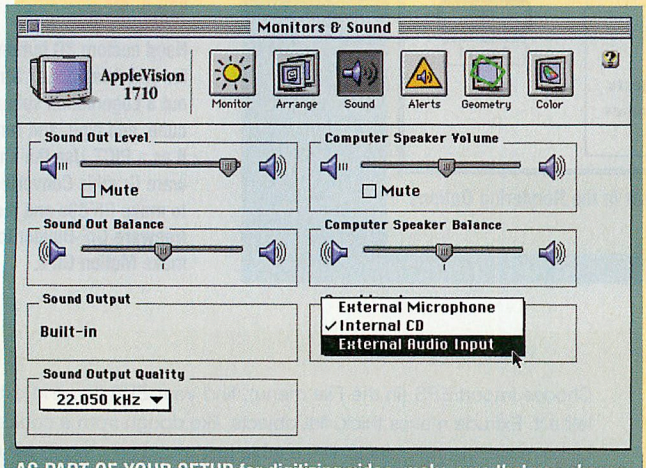
This month we'll examine the steps needed to prepare your QuickTime movie for the Web. Next month we'll introduce you to the HTML involved in putting the movie on your Web page. Then you, too, will be able to share your cinematic creations.

FIND THE FREEWARE AND SHAREWARE mentioned on The Disc.

STEP 1 Digitize the Video

To get your movie off the videotape and onto your hard drive, it needs to be digitized. The details were covered in "QuickTime Home Studio," in the January *MacAddict* (p44), but here's the quick lesson.

For best results, use a fast Mac and a big, fast, empty hard drive. For smoothest results, you need the undivided attention of your CPU: Turn off all unneeded extensions (not, of course, the QuickTime extensions). Turn off AppleTalk and virtual memory (including Connectix's RAM Doubler). Put a disk into every removable drive—floppy, CD, and so on—to keep the Mac from periodically checking the drives. Quit all unused applications. Hold your breath (just kidding).

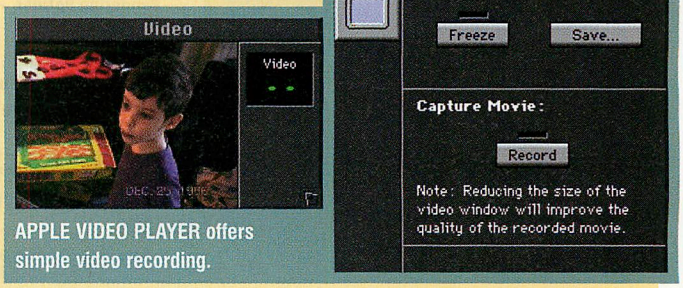


AS PART OF YOUR SETUP for digitizing video, make sure that you choose external audio for your sound input.

1. Set the sound input in the Monitors & Sound control panel or the Sound control panel for external audio.

2. To transfer the video, you need either an AV Mac such as the Quadra 660AV, Quadra 840AV, or Power Mac 7500 or 8500, or a video capture board such as the Truevision Targa 2000 or the miroMotion DC20.

If you have an S-Video port on your camcorder or VCR, plug an S-Video cord between that port and the corresponding S-Video input port on your Mac. Or attach RCA plugs to the three output jacks on your camcorder or VCR and to the "in" RCA jacks on the back of your Mac, matching the yellow, red, and white plugs.



APPLE VIDEO PLAYER offers simple video recording.

3. Capture the movie with video editing software—AV Macs come bundled with simple video recording software, either Movie Recorder or, more recently, Apple Video Player. Keep the size reasonable by selecting the smallest window you can stand: 160 x 120 pixels is ideal. Quarter screen size, 320 x 240, creates a much larger final file size. Set compression to None if you have the hard drive space.

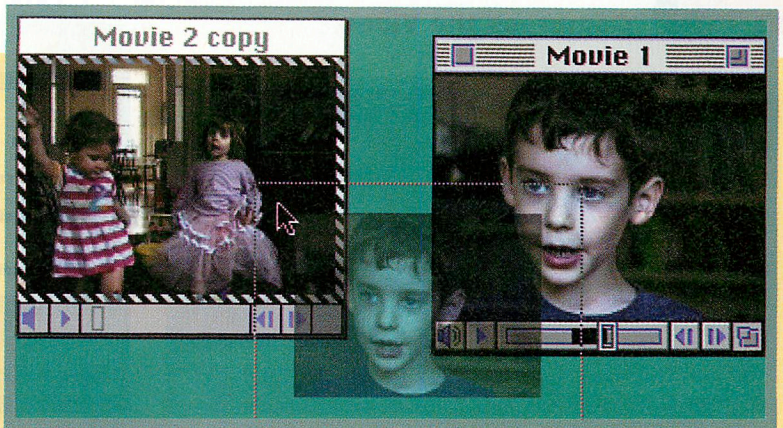
4. Press the Play button on your camcorder or VCR and click the Record button in Apple Video Player or your editing software. Click again to stop. That's all there is to it!

5. Repeat for each scene you want to add to your final QuickTime movie. Next we'll splice them together with video editing software.

STEP 2 Edit the Film

If you just want to plop a bare-bones QuickTime movie onto your Web page, you can skip the editing step entirely. But editing is more than simply splicing a couple of video clips together. Even with a single short scene, you may want to add a second of fade-in and fade-out at the beginning and end of the movie. If you have two or more clips, it's also nice to use a short transition effect to soften the cut. (Be warned: Fades and dissolves detract from your movie's compressibility—see below.)

Apple's free MoviePlayer application can handle some basic editing. To insert a clip into a movie, for example, open two movies, select a portion of one by Shift-dragging the slider, then click on the first movie and drag the selection straight into the second movie. It will be inserted at the exact spot displayed in the window. MoviePlayer also lets you add a second audio track and titles. Not bad for a free application.

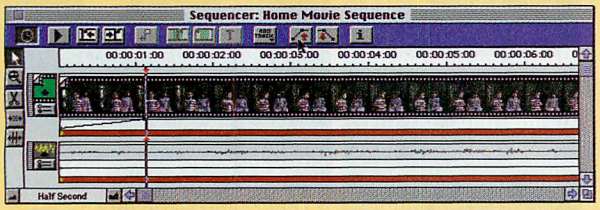


THE FREE APPLE MOVIEPLAYER application performs elementary video editing. It's simple to insert a movie clip into another movie.

For special effects such as dissolves and fades, you need something a bit fancier. This doesn't mean, however, that you have to spend $800 on Adobe Premiere. For example, some AV Power Macs are bundled with Avid VideoShop 3.0 (now owned by Strata), a versatile editor; and special video-editing Macs, such as the Power Macintosh 6400, come with Apple's Avid Cinema. Or for just $20, try the shareware QuickEditor.

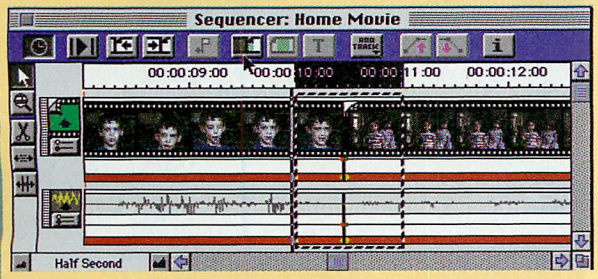
How to Create Special Effects

In today's world of glitz and glamour, you may feel as though something is missing from your movie if you don't add special effects. Here's how to use Strata's Avid VideoShop to fade in your movie at the beginning and fade it out at the end. All video editing packages offer similar capabilities.



TO WORK WITH EFFECTS in Avid VideoShop, be sure the Sequencer window is set to Time view.

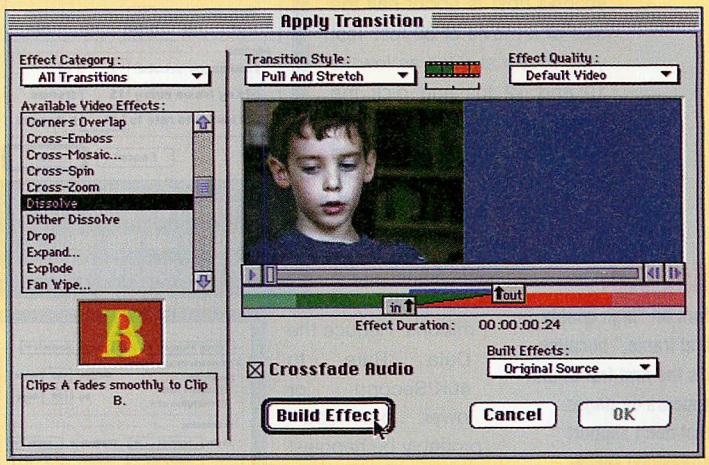
First, open your movie in VideoShop, select a part of it as a scene, and drag it into VideoShop's Sequencer window. Switch the window to Time View and set the insertion point about one second from the beginning of the clip. Now click the Fade-in button to create a fade-in from black. Use the same process to create a fade-out: Set the insertion point about a second from the end and click the Fade-out button.



FIND THE SPOT at which the two clips meet and select an equal amount of time on each side for the transition.

Now let's add a second movie clip to the first and make an attractive transition between them. To do this, select a different part of the movie (or open a second movie). Drag the selection to the Sequencer window and put the two clips in the correct order. Then switch the window to Time View.

At the point where the two clips meet, select about a second or two on each side of the joint. (The Mirror Selection tool is useful for selecting identical portions to the left and right.) Then click the Transition tool.

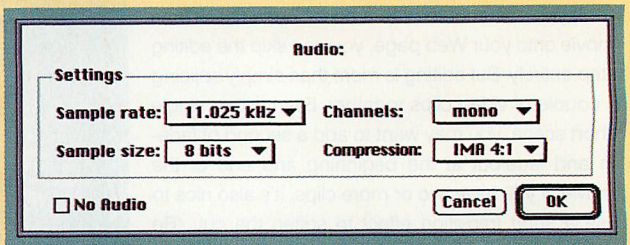


VIDEOSHOP OFFERS A LARGE VARIETY of transitions, but I prefer a simple dissolve. Select one you like and click Build Effect. The results show in the window.

You can choose from a variety of transitions in VideoShop. There are explosions, spins, mosaics, and more. Feel free to experiment, although you may find that the simpler effects such as dissolves are ultimately the most effective and the most elegant.

STEP 3 Compress the Video

HONEY, I SHRUNK THE VIDS! The effect of compression is noticeable but still acceptable.



COPY THESE SETTINGS for the most compressed sound. If the quality isn't good enough, increase the sample rate or sample size, and compare.

As you're well aware, what works fine from your hard drive may be completely useless from a Web page. To make the movie Web friendly, you need to make two adjustments: The movie must be as small as possible and must be viewable from a variety of platforms.

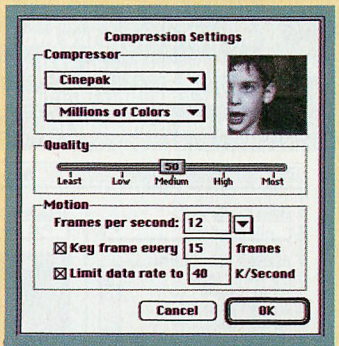
No one wants to download a 10MB movie. No one. My informal survey suggests that people will download a *really, really, really* cool 2.5MB movie. Otherwise, consider 1MB to be your upper limit and shoot for 500K.

Hot Tip:
Consider using 256 grays, which makes a movie much smaller than when using colors but can give surprisingly good results.

We'll use Terran Interactive's Movie Cleaner Pro to compress the movie. It offers more flexibility and better compression than what's offered in video editing software. (The freeware version, Movie Cleaner Lite, is on The Disc.) My 26-second movie was captured to hard disk as a 30MB QuickTime clip at 160 x 120 pixels. Using the following techniques, I reduced it to less than 1MB.

First, if you were smart, you created your movie in a small window, no larger than 160 x 120 pixels. Congratulations. Now, open Movie Cleaner Pro and go to its compression settings. Use these four hints for compression:

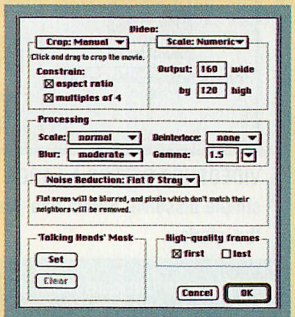
1. Video compression: Frame rate is directly related to size. A QuickTime movie at a very watchable 15 frames per second (fps) is about half the size of a movie at 30 fps. Test your movie at rates as low as 10 and 12 fps and pick the lowest rate you find acceptable. Reducing the movie to 256 colors dramatically shrinks it, but 256 colors can look just plain bad—settle for thousands or millions. Reduce the Data Rate to 40K/Second or lower, but you'll probably be happiest with Quality set at no less than medium.



THE SETTINGS in this Movie Cleaner Pro dialog box can help reduce a movie to a fraction of its original size.

Hot Tip:
Turn on "high quality first frame," because it's the first frame that appears on pages that don't support embedded QuickTime movies.

2. The *codec,* or compression method, has a dramatic effect on final file size. Use Cinepak compression, which is built into QuickTime. It easily can make a movie one-tenth its original size, and the quality is completely acceptable.



IMPROVE COMPRESSION a bit with tweaks to noise reduction and blur.

3. Examine the settings in Movie Cleaner Pro's Video settings for Processing and Noise Reduction. You can improve compression slightly with subtle adjustments to noise reduction and blur. The excellent Movie Cleaner Pro manual gives all the details.

4. Audio compression: Compressing the sound can also shave size significantly. Use Movie Cleaner Pro's IMA 4:1 compression if you have Sound Manager 3.2 in your Extensions folder or you're using System 7.5.3 or later.

Seven Tips for Creating Great Videos

IT LOOKED DRAMATIC ON A TV, but it's hard to see in a QuickTime movie, and it also compresses poorly.

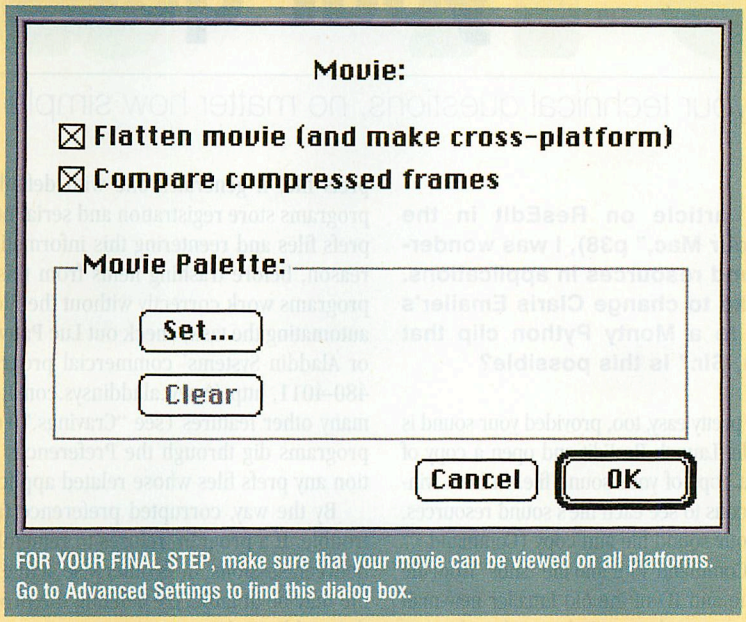
You may be a master cinematographer, but that doesn't mean you know what's best for playing your masterpieces back in QuickTime and on the Web. Because the file size—in other words, the file's download time—is absolutely crucial on the Web, heed these tips. They will pay off when your movie is compressed and played in a tiny window:

1. Use a high-quality camera: at least S-VHS or Hi-8.
2. Use a tripod. Camera moves or zooms can greatly reduce compressibility.
3. Lighten up! QuickTime movies compress best—and look best—when they're bright.
4. I'm ready for my closeup, Mr. DeMille. Smaller files come from smaller window sizes. So tape closeups that will fill that small window.
5. Avoid busy backgrounds.
6. Effects don't compress well. Use hard cuts or fast cross-fades for transitions.
7. Don't compress your movie until the very end, and then use a dedicated compression tool such as Movie Cleaner Pro by Terran Interactive.

STEP 4 Make the Movie Cross-platform Friendly

To be sure your movie can be viewed on all platforms, click the "flatten and cross-platform" box in the Advanced Settings. Because Windows monitors have a slightly darker "gamma"—which roughly means the brightness of the monitor—increase the the gamma setting to 1.2 to 1.5.

By next month, when we tell you how to put your movie on your Web page, you should have a work of art that would make even a Hollywood producer jealous! —*Joseph O. Holmes*



FOR YOUR FINAL STEP, make sure that your movie can be viewed on all platforms. Go to Advanced Settings to find this dialog box.

Hot Tip:

Any standard Mac ADB cord, the same cord that attaches a keyboard or mouse to the Mac can double as an S-Video cable.

how to

View the Movie

Which Web browsers display QuickTime movies? Any Web browser can download a QuickTime movie and pass it off to a helper application such as MoviePlayer. But to display a QuickTime movie *embedded* right on the Web page, your visitors need QuickTime Plug-in 1.1, which works with Netscape Navigator 2.x and 3.x for the Mac and Windows, and with Microsoft Internet Explorer 2.x and 3.x for the Mac and 3.0 for Windows 95.

tips

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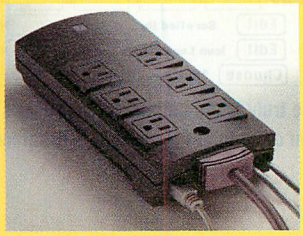
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ask us your questions

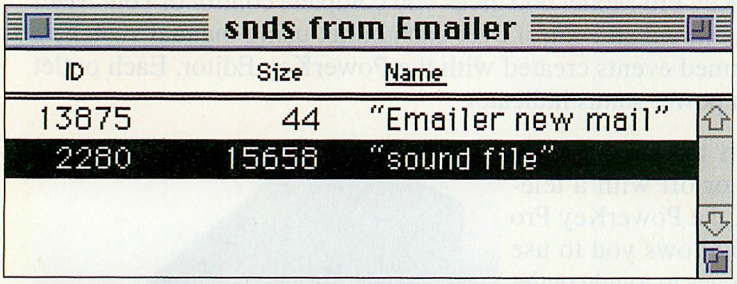
We answer all of your technical questions, no matter how simple or complex.

Q After reading the article on ResEdit in the January issue ("Hack Your Mac," p38), I was wondering how I can swap sound resources in applications. For example, I would like to change Claris Emailer's new-mail sound effect to a Monty Python clip that says, "Message for you, Sir." Is this possible?

A Not only is it possible, it's pretty easy, too, provided your sound is a double-clickable System 7 file. Launch ResEdit and open a copy of your Emailer application and a copy of your sound file. In both windows, double-click the "snd" icons to see each file's sound resources. Select the sound resource in your sound file and copy (Command-C) it to the Clipboard. Now paste (Command-V) it into the "snds" from the Emailer window. Note the name and ID of the old Emailer new-mail sound, then highlight that resource and press Delete. Select the new sound and choose Get Resource Info from the Resource menu. In the window that appears, give the new sound the same name and ID as the old sound. Then quit ResEdit and save all your changes. That's it!

WARNING: When using ResEdit, it's a good idea to use *copies* of your files until you can verify that your changes didn't destroy anything. Also, some updaters refuse to work on applications whose resources have been changed, so you may want to keep "virgin" backups handy.

FIND DEMOS of Gumshoe, AutoMenus Pro, ResEdit, and RAM Disc Iconer on The Disc.



CHANGING SOUND RESOURCES with ResEdit is as easy as cut and paste, but take precautions just in case.

Q What's the deal with the Preferences folder located inside the System Folder? Can I safely clean it out?

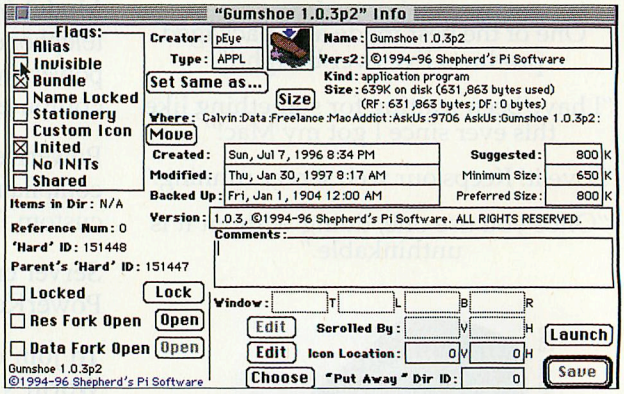
A Introduced with System 7, the Preferences folder is where well-behaved programs are supposed to store small files that track your preferred settings for various options. But prefs files are often left behind long after you've deleted the programs that created them. You'd be surprised how many old, worthless prefs files are taking up space in your Preferences folder.

For the most part, you can usually safely delete anything you find in the Preferences folder, since if a program can't locate its prefs file, it generates one with default settings. However, some programs store registration and serial number information in their prefs files and reentering this information can be a pain. For that reason, before trashing items from this folder, confirm that your programs work correctly without the files you want to remove. For automating the task, check out Luc Pauwels' freeware PrefsCleaner or Aladdin Systems' commercial program Spring Cleaning (800-480-4011, http://www.aladdinsys.com). While Spring Cleaning has many other features (see "Cravings," Feb/97, p32), both of these programs dig through the Preferences folder and mark for deletion any prefs files whose related applications are gone.

By the way, corrupted preference files are often the cause of trouble. If a program refuses to remember your preferred settings between sessions, or is otherwise acting strangely, a damaged prefs file may be at fault. Try deleting the program's prefs file and see if the problems disappear.

Q How do you make a file or folder invisible in the Finder?

A Whether a file's or folder's icon appears in the Finder depends on the state of its invisible bit. What you need is a utility to toggle this invisible bit. You could use Apple's ResEdit, or the Norton Disk Editor in Symantec's Norton Utilities, but I prefer the shareware program Gumshoe from Shepherd's Pi Software. Rather than try to explain its many features myself, here's a brief description from the program's ReadMe file: "Gumshoe is the ultimate power user's Get Info utility for the Mac. It displays virtually every scrap of information the Finder and/or the desktop database contains for any application, file, folder, or disk, and allows almost all of the information to be edited. Make a file or folder invisible. Change its creator and type. Give it a custom



AS YOU CAN SEE, Gumshoe truly is the ultimate power user's Get Info utility. In addition to a zillion other things, Gumshoe is great for toggling files' invisible bits.

icon. Rename it, move it, launch it, give it a new creation, modification, or backed up date, even change an application's suggested memory partition and version resources, all from Gumshoe's extended Get Info window. Gumshoe even allows you to replace the standard icon for any file type/creator combination and see the changes without having to rebuild the desktop."

Keep in mind that just because a file or folder doesn't appear in the Finder, "invisible" items are often listed in the Open and Save dialog boxes of many applications, so don't assume your items are completely safe from prying eyes.

Q Is there a program that makes menus stay down when you move the cursor over them instead of having to hold down the mouse button?

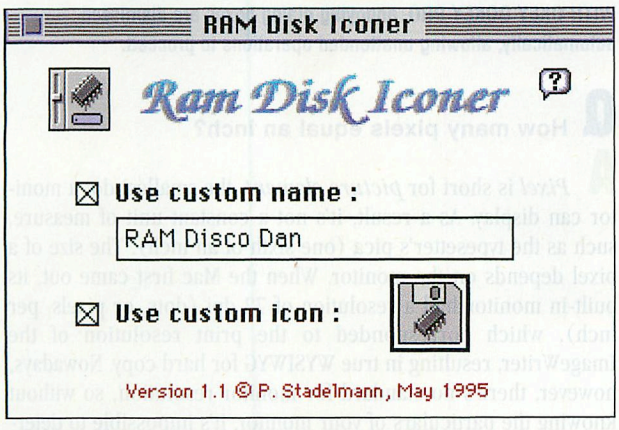
A Now, here's a feature from Microsoft Windows that I'm not ashamed to admit I wish were an option in the Mac OS. So-called sticky menus are great for those of us suffering from repetitive stress injuries because they reduce the amount of clicking needed to accomplish simple, everyday tasks. If you have the commercial program Now Utilities from Now Software (800-689-9427, http://www.nowsoft.com), open the Now Menus control panel and in the Preferences dialog box, select the "Menus stick when pulled down" checkbox. If you're looking for a shareware program that provides this feature, try AutoMenus Pro from Night Light Software.

Hot Tip:

If your Mac crashes and you must restart without first shutting down, you'll get a message on startup saying that you did not shut down properly. No harm done—just dismiss the message. To avoid this message in the future, go to the General Controls control panel and uncheck "Warn me if computer was shut down improperly." The message won't bother you anymore.

Q Is there any way to permanently change the icon for the RAM Disk that's created using Apple's Memory control panel?

A Since you can't paste a new icon into the RAM Disk's Get Info window as you would a normal volume, the easiest way to change the icon is to use the freeware control panel RAM Disk Iconer from Patrick Stadelmann. Not only does this control panel allow you to create a custom icon for the RAM Disk, you can even change its name.



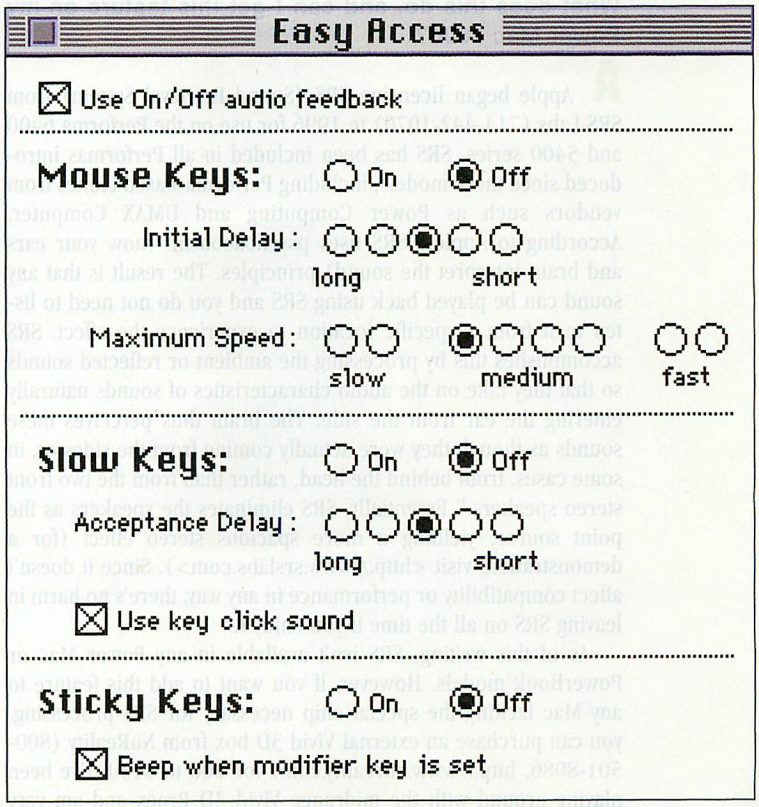
WHY SETTLE FOR APPLE'S BORING RAM DISK icon and name when you can change both with this simple control panel?

Q My mouse recently died. Do you know of a utility that will allow me to use the numeric keypad or arrow keys on my keyboard to move the cursor and make selections while I'm grieving and waiting for a replacement?

Fascinating Family Fact

Shortly after his birth on February 24, 1955, Steve Jobs was adopted. Many years later, in 1978, his high school sweetheart gave birth to their daughter, named Lisa Nicole (the ill-fated computer was named after her, not the other way around). Not until he was in his thirties did Steve learn that his biological parents had another child, author Mona Simpson (the protagonist of her latest book, *A Regular Guy,* is loosely based on Steve). So Steve has a sister named Mona and a daughter named Lisa. Hmm... Mona, Lisa. Believe it or not.

A You need Easy Access, a control panel that's part of the Mac OS. Designed for physically challenged users, Easy Access allows you to move the cursor by using the numeric keypad. It also has a Sticky Keys option that allows you to invoke Command-key combinations one keystroke at a time rather than pressing all the keys simultaneously. If you don't find Easy Access in your Control Panels folder or in a folder named Apple Extras on your hard drive, you need to run the Mac OS installer and perform a custom install. Along with CloseView, Easy Access is part of the Universal Access package.



PART OF THE MAC OS Universal Access package for physically challenged users, Easy Access allows you to move the cursor using the numeric keypad.

More Tips From Readers

Readers were quick to point out a few things I overlooked in the March installment of this column. First, instead of deleting preferences in the Macintosh Easy Open control panel, a better way to fix a mistake is to select the "Always show dialog box" checkbox. The next time you double-click an orphaned document, a dialog box will appear and you'll be able to assign the correct application. Second, I always set my Finder windows to view by name, so it never dawned on me that if you choose "by Icon" from the Finder's View menu, the disk info appears in the header regardless of the settings in the Views control panel. Finally, in my attempt to explain VRAM in a manner applicable to all Mac users, I overlooked two unique situations. Increasing VRAM to 4MB allows a Power Mac 8500 to drive a monitor and a video device, such as a TV or a VCR, simultaneously. With the standard 2MB, it can drive a video device, but you must disconnect the Mac monitor. Also, the Power Mac 6100, 7100, and 8100 series normally use standard RAM for video. Adding a video card with its own VRAM enhances overall system performance.

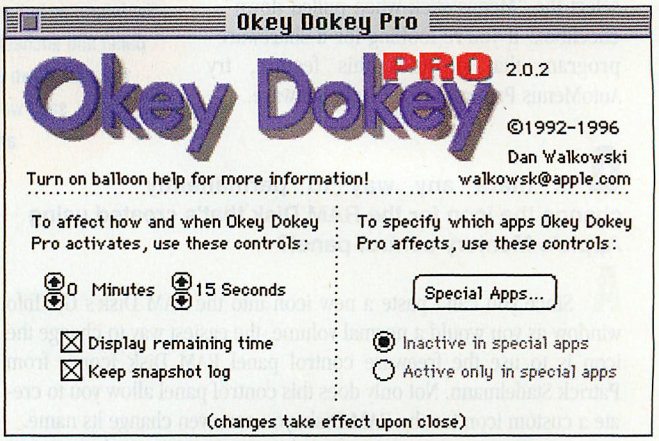
Q My friend's Performa 6400 has a checkbox in the Monitors & Sound control panel called SRS Sound. What does this do, and can I get this feature on my Power Mac 7600?

A Apple began licensing SRS (Sound Retrieval System) from SRS Labs (714-442-1070) in 1996 for use on the Performa 6400 and 5400 series. SRS has been included in all Performas introduced since these models, including Performa-based clones from vendors such as Power Computing and UMAX Computer. According to Apple, "SRS uses psychoacoustic (how your ears and brain interpret the sound) principles. The result is that any sound can be played back using SRS and you do not need to listen to it from a specific location to experience the effect. SRS accomplishes this by processing the ambient or reflected sounds so that they take on the audio characteristics of sounds naturally entering the ear from the side. The brain thus perceives these sounds as though they were actually coming from the sides or, in some cases, from behind the head, rather than from the two front stereo speakers." Essentially, SRS eliminates the speakers as the point source, yielding a more spacious stereo effect (for a demonstration, visit <http://www.srslabs.com>). Since it doesn't affect compatibility or performance in any way, there's no harm in leaving SRS on all the time if you enjoy it.

As of this writing, SRS isn't available in any Power Mac or PowerBook models. However, if you want to add this feature to any Mac lacking the special chip necessary for SRS processing, you can purchase an external Vivid 3D box from NuReality (800-501-8086, http://www.nureality.com) for $60 to $150. I've been playing around with the midrange Vivid 3D Proex and am very impressed with how much better audio CDs sound, not to mention multimedia discs and games with lots of sound effects. Keep in mind, however, that for SRS to work, you must have external stereo speakers, or speakers built into a multimedia monitor, such as the Apple Multiple Scan 15AV or Apple Multiple Scan 15.

Q I set up my Mac to automatically turn itself on and download my email during my vacation, but I returned to find that the Mac had "hung" displaying a dialog box warning me of something insignificant. What do you recommend for helping unattended operations?

A Don't you just hate stupid dialog boxes that appear from nowhere and keep your Mac from doing anything else until they're dismissed? Thoughtful programs such as Now Up-To-Date have self-expiring dialog boxes, but they're the exception rather than the rule. That's why I rely on Dan Walkowski's freeware control panel Okey Dokey Pro to automatically press the default buttons in most modal dialog boxes after a specified time limit. Since the convention is to never make a destructive action the default option in a dialog box, it's usually safe to allow Okey Dokey Pro to dismiss them in my absence. There's even an option to keep a log of all dismissed dialog boxes, so you'll know what happened while you were gone.



WITH OKEY DOKEY PRO, annoying dialog boxes are dismissed automatically, allowing unattended operations to proceed.

Q How many pixels equal an inch?

A *Pixel* is short for *picture element,* the smallest dot a monitor can display. As a result, it's not a constant unit of measure, such as the typesetter's pica (one sixth of an inch). The size of a pixel depends on the monitor. When the Mac first came out, its built-in monitor had a resolution of 72 dpi (dots, or pixels, per inch), which corresponded to the print resolution of the ImageWriter, resulting in true WYSIWYG for hard copy. Nowadays, however, there's no standard for monitor resolution, so without knowing the particulars of your monitor, it's impossible to determine the number of pixels per inch.

Owen W. Linzmayer (askaddict@aol.com, http://www.netcom.com/~owenink) is a San Francisco-based freelance writer and the author of *The Mac Bathroom Reader.* Please submit technical questions or helpful tips directly via email or c/o MacAddict, 150 North Hill Drive, Suite 40, Brisbane, CA 94005.

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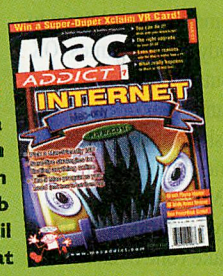

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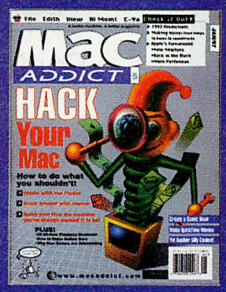

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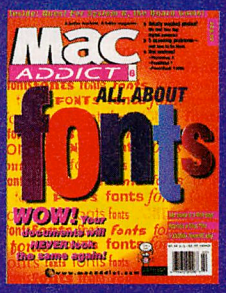

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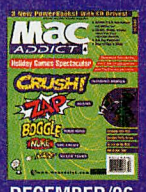

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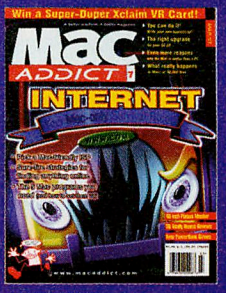

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powerplay

Porting powerhouse Lion Entertainment is a bear on the Mac games market.

Teasers

Chess Wars

COMPANY: Art Data Interactive
CONTACT: 800-459-1002; http://www.artdata.com

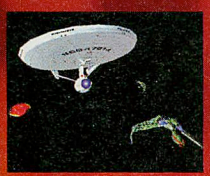
Sure, chess has been around for hundreds of years, entertaining and challenging millions of people. Most game companies would be satisfied with improving the interface and adding master games. Not Art Data Interactive. Art Data actually added a plot. Dressed in outfits straight out of the Society for Creative Anachronism, the white (good) side has been attacked by the black (evil, of course) side. With so much video, the product comes on two CD-ROMs, and the scenes that were cut will be made available on DVD, when that medium is more viable.

FIND A DEMO of Starfleet Academy on The Disc.

Fallout

COMPANY: MacPlay
CONTACT: 800-4MACPLAY, http://www.macplay.com

In MacPlay's new role-playing game, Fallout, you are a Vault-dweller, a denizen of a fallout shelter. After a worldwide nuclear war, the violent, radiated surface world is inhabited by mutants and gangs. Your job is at first to find a replacement chip for a broken machine. Your character grows both by solving puzzles and surviving fights with the mutants. (Bet the flamethrower comes in *real* handy.)



Star Trek: Starfleet Academy

COMPANY: MacPlay
CONTACT: 800-4MACPLAY, http://www.macplay.com

We told you about it last year (Nov/96, p104), and now it's nearing completion. You're a cadet, learning how to be a Starfleet officer. Will you be able to graduate and get your own ship?

You'd think it would be a good thing—four wildly popular PC games in the process of being ported to the Mac by longtime Mac game developers. So why are the folks at Lion Entertainment so glum? For one thing, last Christmas really smelled for the Mac game market. In addition to slow Performa sales, nobody bought games. OK, maybe two of you did. But no one else. Poor sales means that major game vendors are seriously reconsidering publishing their games for the Mac. No Mac ports means Lion can't earn money developing for the Mac.

In addition to this lovely scenario, some bozo pirated the PC code for Quake (one of Lion's current conversion projects), ported it to the Mac for "fun," then released it on the Internet. If you were Lion, you'd be grumpy about the Mac market, too. It's not all doom and gloom, though. Lion will be doing the ports for id Software's Quake, Accolade's Deadlock, and 3DRealms' Duke Nukem 3D and Shadow Warrior, all for release this year. We talked to Doug Grounds, Lion Entertainment's president and CEO, about his current projects.

Doug Grounds (artist's conception)

MA: MacSoft will now publish GT Interactive's Mac titles. Will this change the way you develop their games?

DG: MacSoft doesn't have too much of an effect on us directly as far as development goes. We're certainly glad to see that they're involved. They're very familiar with the Mac market—that's been a welcome change in marketing and distribution. They are more familiar with the MacOS's interface than GT is.

"It's not a matter of whether we have the desire to make games for the Mac. It's a matter of whether we can survive making games for the Mac."

MA: Have Apple's Game Sprockets aided your development?

DG: The Game Sprockets are a welcome technology. They certainly enable more developers to produce Mac titles. Our tests have indicated that for the most part, the Game Sprockets don't bring anything to the table as far as our own development is concerned, but they bring the level of programming to a wider audience. The DrawSprocket, for instance, allows you to do blitting to the screen. [Blitting is a programming term for copying something from one place to another. In this case, it's from an offscreen pixel map to the screen itself.] Our code is about on par, performancewise, with the Sprockets. NetSprocket doesn't help us very much at all, because we have to back-engineer connectivity so that everybody out there with Duke for the Mac can play against Duke for the PC. NetSprocket doesn't give us a way to do that. We will use the InputSprocket, because that allows us to support a wide variety of input devices, which we wouldn't otherwise. For the most part, the Sprockets provide stuff that we either don't need or already have code for.

MA: But you are using QuickDraw 3D Rave (Rendering Acceleration Virtual Engine).

DG: QuickDraw 3D Rave is an API, an application programming interface, which supposedly allows compatibility between a wide variety of 3D hardware boards; we're implementing that.

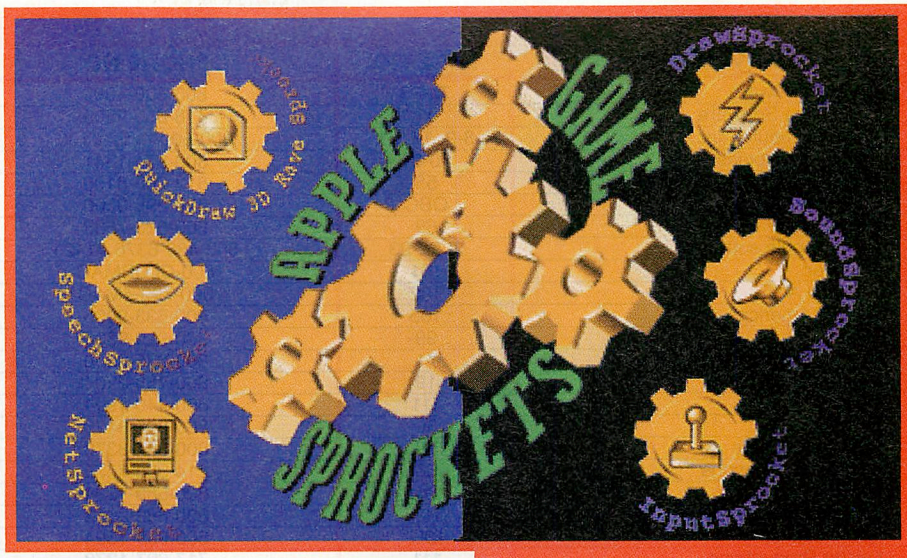
MA: Supposedly?

DG: The boards have such a wide variety of performance and features that what you end up doing is really going in and supporting Rave for a specific subset of cards. For instance, the early QuickDraw Rave accelerator that Apple put out is simply not up to the task of supporting Quake. The cards we're concentrating on are ATI's card, 3DFX's—which we can't say enough good things about—and there's another card that we're evaluating support for, which is the PIX card.

MA: How has the pirated MacQuake affected you?

Would you like to touch my Sprocket?

Apple Game Sprockets are libraries of code that developers can use to add functionality to their games. The Sprockets consist of six components ranging from functions that almost all games need, from hiding the menubar to providing speech recognition. As a user, you'll see the Sprockets as shared libraries in a game's folder, or installed in your Extensions folder. So if some of your gaming experiences—especially configuration dialog boxes—are starting to look similar, the developers probably used the Sprockets. While Apple Game Sprockets will not be ported to Rhapsody's yellow box (see "Get Info section) there are Game libraries for OpenStep.



DG: There are few enough Mac developers out there that losing one of them is going to hurt you. Losing even one. And whoever is doing it—and they're doing it for the fun of it—is really cutting their own throat. Lion will continue to do products for Windows 95, the Sony PlayStation, and other platforms. This is really a unique situation, where someone is putting it out there for the heck of it in competition with the commercial release. There's still a lot of work left to do on the conversion. We're spending a lot of time converting highly optimized PC assembly code to PowerPCs. There's no way that a hobbyist can put in the same kind of commitment, money, and that kind of effort to make the game everything it will be. So when people play it and they see it's slow, and there's no network and no sound, it's certainly not going to help us sell units.

MA: So it will affect sales?

DG: Take an already small Mac game market. Then take away the 68040 part of that market, because there's no way we can get it running acceptably on that processor. Now you have a PowerPC-only product. Apple made some critical mistakes early in the PowerPC by shipping a product with a very slow processor—otherwise known as the 603 [*not* 603e]—and then compounded the problem by not putting any L2 cache on it. We're going to be lucky to get Quake running acceptably on that machine [Performa 5200-5220 and 6200-6230 series], period. So we have a very small market to try to make any profit from at all.

MA: Can the Mac game market survive?

DG: The Mac game market has always been small and is currently undergoing an—what would you call it?—interesting time. We're somewhat concerned about the Mac market even in terms of conversions. It will be interesting to see if there is a Mac game market in a year. There are certainly a lot of challenges.

MA: What must Apple do to survive?

DG: Apple has to go out and create new markets for its machines. If you look at the Wintel market, Intel, for instance, is very aggressive about coming out with added value, such as MMX. There's a real big question whether MMX's advantages are mostly in marketing or in actual performance. But [Intel] spends a lot of money getting people to believe they need MMX. Secondly, Microsoft does a really good job creating applications that take advantage of and require these new features. They spend a lot of money on the technical end with Direct Sound, Direct X, Direct Draw, Direct Play. Then they create entertainment content for Windows 95. All of these things put together basically propel Windows 95 much farther along the road of being an entertainment platform. Apple, IBM, and Motorola cannot continue without doing that kind of thing.

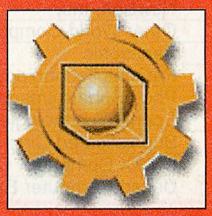
Apple's going to have to get in there and spend money on developing the market and the retail end. For example, we're here in Austin, Texas—home to the PowerPC chip, Motorola, Apple tech support, IBM—and I went looking last week for a retail version of Adobe Acrobat for Mac and couldn't find one. That's not even entertainment. There's a big problem at retail, and that hurts games more than anything. There's so much crap out there that it's difficult to pick a good game out of a catalog—you need to stand there and look at the box, look at screenshots. Without the retail presence, the number of units we sell is declining rapidly. Everything is tied to retail units sold.

Apple's going to have to go in there and fix that. No one else is motivated to fix it for them.

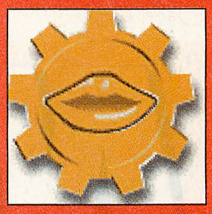
MA: Are you still excited about developing games for the Mac?

DG: There are a lot of people at Lion who have been with Apple from the beginning. The first title I personally developed was Might and Magic I for the Mac in 1985 on a 512K Mac. It's not a matter of whether we have the desire to make games for the Mac. It's a matter of whether we can survive making games for the Mac. —*Kathy Tafel*

The InputSprocket gives developers code to interface with your joystick.

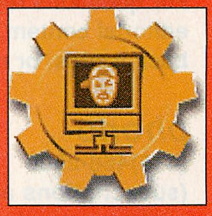


"Rave" (Rendering Acceleration Virtual Engine) enables 3D worlds that are rendered at an appropriate level of detail for your computer.

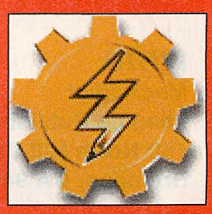


SpeechSprocket uses Apple's PlainTalk technology so developers can allow speech input in their games.

The SoundSprocket lets developers add 3D sound to games.



NetSprocket's functionality includes setup dialog boxes for network play and lets people host games over the network.



DrawSprocket includes code to draw really fast on the screen, and also to change your monitor resolution on the fly.

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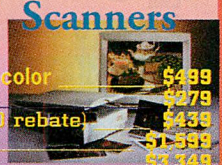

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7200/120	16/1.2GB/8XCD/L2	1149
7200/120	16/1.2GB/8XCD/L2/Refurb	989
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3000/240 MT	32MB/2.5GB/8XCD/L2	2129
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Radius	Extended Keyboard	49

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16MB	72 Pin Simm	87
32MB	72 Pin Simm	159
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16MB	PB 1400 Mem. Mod.	119
32MB	PB 1400 Mem. Mod.	220
16MB	Duo 2300 Simm	125
32MB	Duo 2300 Simm	225
8MB	PB 3400 Mem. Mod.	79
16MB	PB 3400 Mem. Mod.	125
24MB	PB 3400 Mem. Mod.	179
16MB	PB 5300/190 Simm	115
8MB	168 Pin Dimm	45
16MB	168 Pin Dimm	79
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64MB	168 Pin Dimm	365
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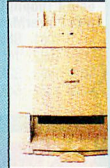

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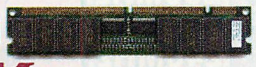

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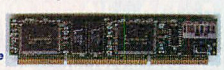

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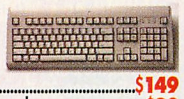

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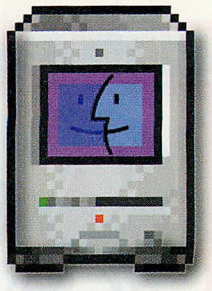
MicroMac Upgrades for older macs



Customize & Expand Your LC, LCII, Performa 400-430 or Color Classic

Keys to Performance

The investment you've made in your Mac is an important one. That is why MicroMac offers affordable accelerator upgrades for a wide selection of Macintosh models ranging from the Mac Plus, SE and Classic, Mac II series, Centris and Quadras to Performas and PowerPCs. For the LC, LCII, Performa 400-430 and Color Classic MicroMac has accelerators specifically tailored to meet your hardware and software environment.

The two most important upgrade priorities for the average user are speed and memory. Today's application software and Internet programs require a minimum system to be configured with a 32MHz 68030 processor (the brains of the computer) and 8MB of RAM (the area used by applications and System software to store data and other types of information).

When upgrading your Mac, keep in mind the following guidelines as "keys" to unlocking your Mac's best possible performance:

- More than 10MB of RAM is essential to optimally run multimedia, graphic-intensive Internet software
- An FPU (math coprocessor) is recommend for work involving number crunching, graphic design and desktop publishing
- For high-end performance a 50MHz 68030 or 50/25MHz 68040 is recommended

LC/LCII Power WorkStation

$199

With over four million LC and LCII (Performa 400/405/410/430) computers in schools and homes, here is the new exciting MicroMac Power WorkStation that will allow Ethernet and acceleration for faster access to the Internet. The new upgrade chassis includes a specially modified MicroMac ThunderCache accelerator with an Ethernet pass-through slot, 40W power supply and internal CD-ROM, Zip drive or hard drive bays. Finally you have the option to expand your low-profile Mac into a high-performance desktop workstation suitable for desktop publishing, educational programs and accessing the Internet.

New Product! visit web site for details

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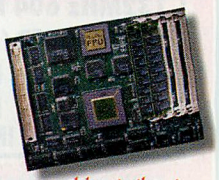


pricing starting at $249

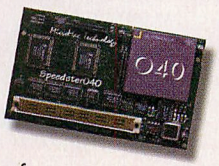
With the combined power of a 32MHz or 50MHz 68030 processor, 32KB cache (which serves as a very high speed storage buffer for frequently used data) and optional FPU (math coprocessor), the ThunderCachePro accelerator offers the performance equivalent to a Quadra 610 (50/25MHz 68040-based Mac). In addition to increasing your raw processing performance, the ThunderCachePro incorporates four on-board SIMM slots for RAM expansion up to 26MB. This technological breakthrough allows you to efficiently run today's most demanding and memory intensive operating systems, applications and Web browsers and utilities.

With the ThunderCachePro, you finally have enough RAM to run your favorite Internet applications and software

Installing extra RAM is simple. First populate the logic board with 10MB, then add SIMMs in pairs onto the accelerator board. For example, add one pair of 1MB and one pair of 4MB SIMMs onto the ThunderCachePro for a total of 20MB available system memory.

Economical Performance Accelerators • Add more Speed

Speedster040 up to 350% faster!



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The Speedster040 offers exceptional speed and is the accelerator of choice for individuals who are content with 10MB of RAM but wish to achieve a substantial upgrade in performance for tasks such as word processing, image editing and Web page design. The Speedster040 features a 50/25MHz 68040 processor configured with an optional FPU. The net performance gained with a Speedster040 accelerator is up to 350%, offering you the speed to efficiently process your information.

ThunderCache up to 220% faster!

pricing starting at $99

If you are are on a budget and looking for an economical way to upgrade your Mac, MicroMac's ThunderCache is the solution. Featuring a 32MHz 68030 with 32KB cache and optional FPU, the ThunderCache delivers a performance gain of up to 220%–performance ideally suited for such tasks as word processing, spreadsheet analysis and database management. Like the ThunderCachePro and Speedster040, the ThunderCache easily installs into the PDS slot on your Mac's logic board.

MicroMac carries a full line of accelerators for Macintosh computers.
Visit our Web site for product information and special pricing.

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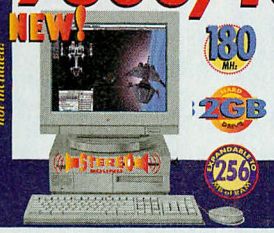

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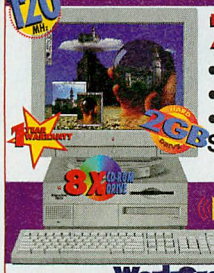

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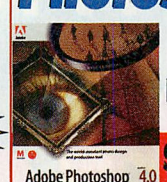

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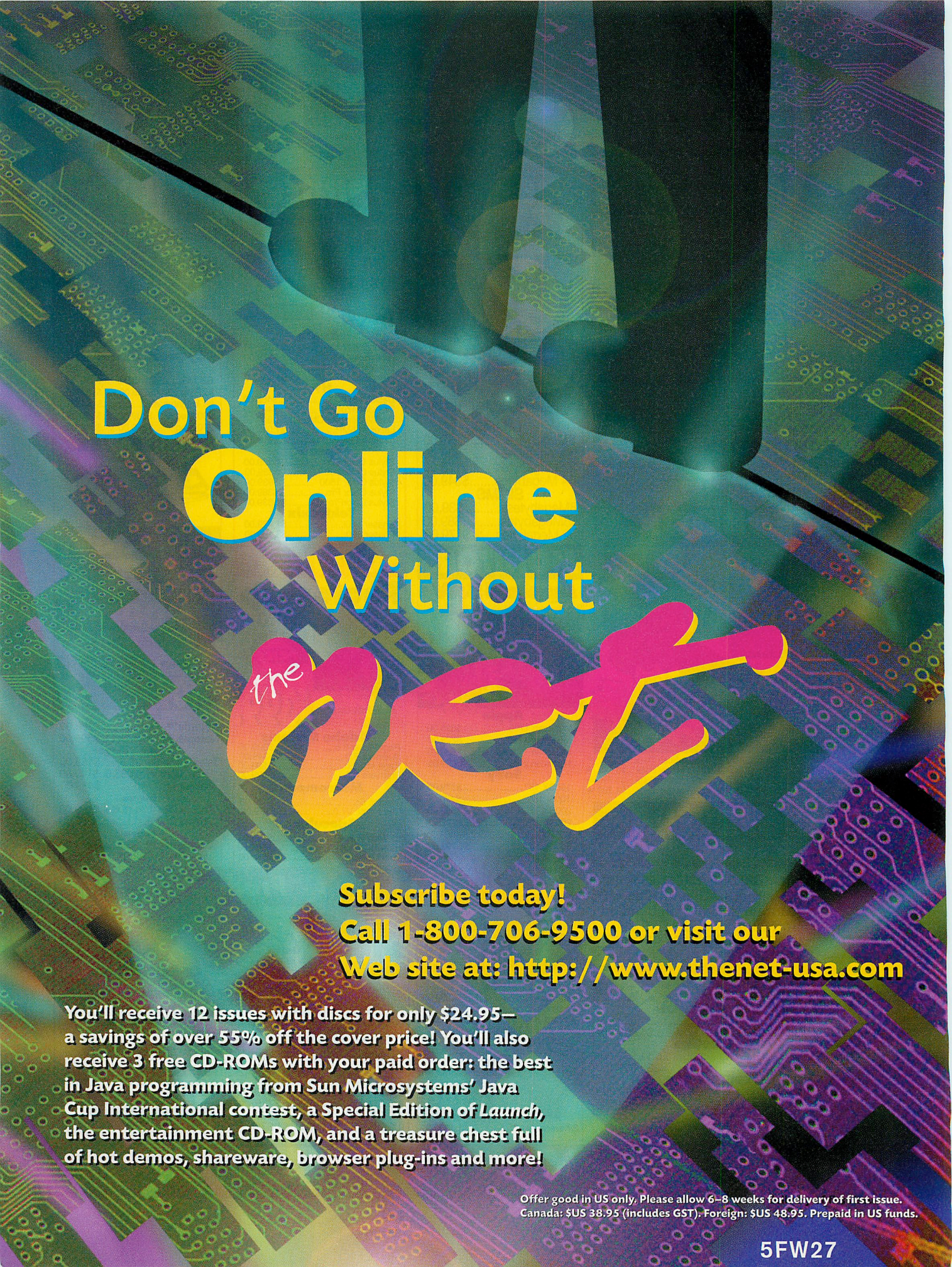
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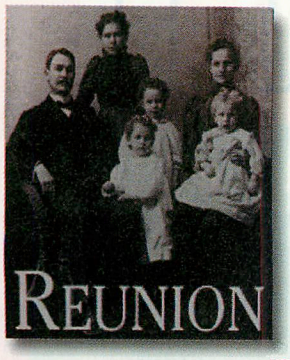

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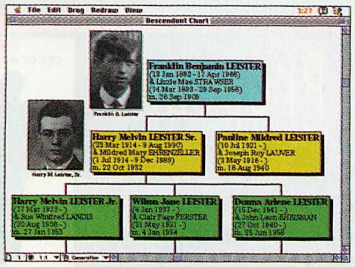

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CALLING ALL PUNDITS

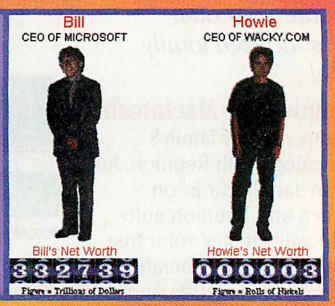
"Rhapsody is fully 100 percent buzzword compliant."
—Jim Gable, vice president (at least for now) of marketing for AppleSoft.

Windows of Opportunity

"Thirty-five million Windows 95 users nationwide are being sought as co-plaintiffs in a Seattle lawsuit alleging that consumers of Microsoft's most recent computer operating system didn't get their money's worth." —*The Washington Post* article (Feb. 13, 1997) says the complaint was filed by a New York City man in September 1995, just two weeks after the release of Windows 95. Two questions: What took the guy so long to realize he was ripped off? Why is he limiting himself to only 35 million dissatisfied Windows users?

Indecent Proposal

Howie, the CEO of WACKY.COM bet his mother-in-law that he's more popular than Bill Gates. If he wins, she has to call up Steve Jobs and ask him for a Power Mac. If she wins, Howie must divorce her daughter and then set up his ex with Bill. Rock the vote at <http://www.wacky.com>.



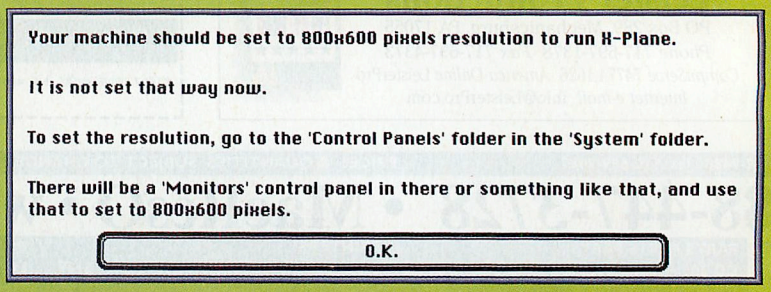
Poor Punmanship Is Hardly "Suitable"

"Web-surfers and computer execs will 'program' these ties into their wardrobes. The 'keyword' is RMStyle. When surfing the 'Net, men can 'sign on' to 'Internet Ties,' by choosing the tie that best 'connects' to their style."

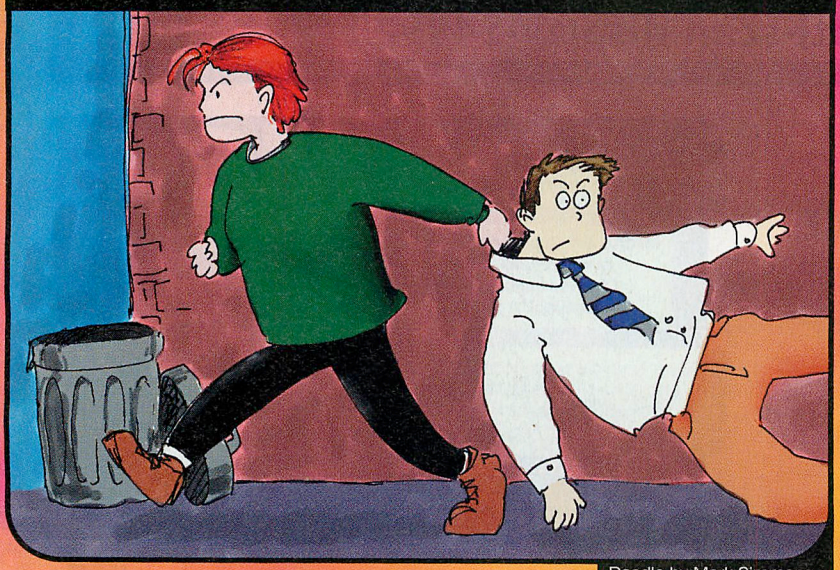
—After reading this press release, *MacAddict* staffers left to "tie" one on at a corner bar in our "neck" of the woods where we "suited" ourselves to many drinks and laughed aloud about the "knot" heads who would wear these dorky ties.

We Couldn't Agree More

This is the widest OK button we have ever seen. Wow. (From X-Plane, by Laminar Research.)



IT NEVER OCCURRED TO CHARLOTTE THAT SHE COULD DROP GREG WITHOUT DRAGGING HIM.



Doodle by Mark Simmons

Sex Appeal I

"We develop software. We do not address the performance issues of the sexually adventurous," said Richard Van Dyke, the marketing vice president for X Graphics, previously called X Inside. The company, which develops computer graphics software, hopes the name change will put an end to the barrage of requests it has received for X-rated materials.

Sex Appeal II

"She said all the boys were around the computer and they were laughing and calling the girls over to look at pictures of naked people," said Boston resident John Hunt in a *Boston Herald* report in which he complained that his 11-year-old daughter was viewing pornography at the library. To Hunt's relief, the children went back to their studies as soon as they realized that X Inside was not, after all, a distributor of X-rated materials.

Background art by Chris Vanderhoof

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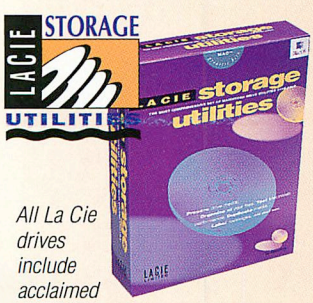

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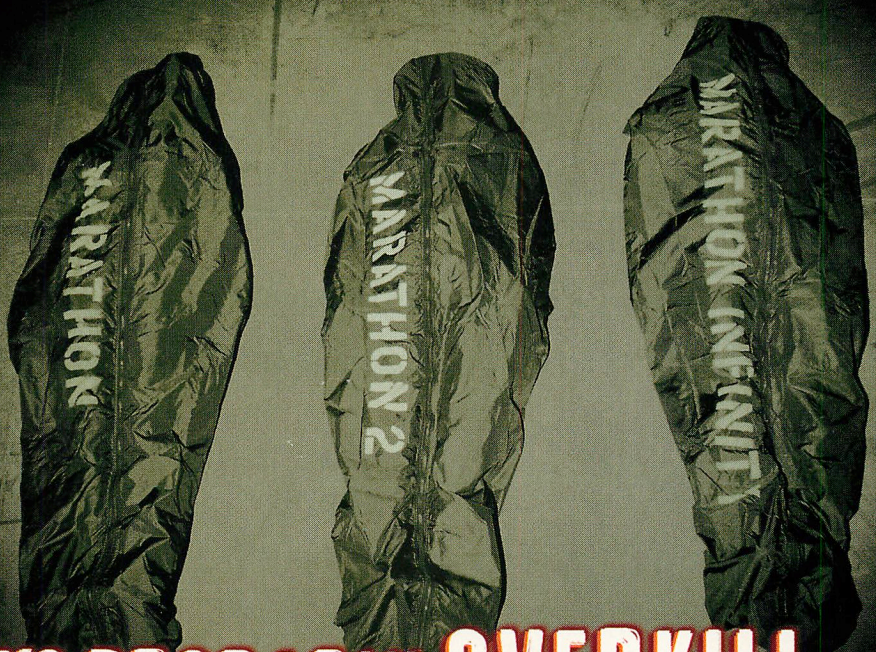

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